A

# CONCISE SYSTEM

OF

# LOGICS,

IN QUESTION AND ANSWER,

k

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# *ADVERTISEMENT.*

THIS Work is principally deſigned, and well adapted for Academies or Colleges, and will be found, on peruſal, to deſerve the Attention of, perhaps, even the moſt ſcientific. The Intention of this undertaking is to lay before the youthful Reader, a ſhort, but comprehenſive View of the principal Operations of the human Underſtanding, together, with the Rules of reaſoning, and the method of arranging our Ideas, in a ſyſtematic order. The Advantages accruing from ſuch a Treatiſe muſt be obvious to every perſon who reflects, that regularity and order are as neceſſary in our reaſoning, as in any other Concern of human Life. We preſume, that reducing the Art of reaſoning to Queſtion and Anſwer, will greatly facilitate and expedite the acquiring a perfect Knowledge of it, and another advantage reſult, from compriſing the Rules of the Art into as ſmall, but explicit a Compaſs, as the nature of the Matter can poſſible admit. In this, Metaphyſical Diſquiſitions are avoided, with which all the Treatiſes, from the remoteſt antiquity, to the preſent Day, are filled, and which contribute to imprint on the young Mind falſe notions of Piety, Religion and Morality, according to the different Caprices or Modes of thinking, of the different Writers, rather than to communicate the Principles of true Virtue; thoſe matters are therefore omitted in the preſent Treatiſe, leaving the Mind at full Liberty to purſue ſuch Principles as are moſt congenial to it. It is hoped from the general utility and conciſeneſs of this plan, that the undertaking will meet with that Encouragement, which by minute Examination it will be found to merit.

# THIS TREATISE OF LOGICS

## IS DIVIDED INTO THREE PARTS.

## THE FIRST PART

Contains eleven Chapters, viz.

Chap. I. Of Logic in general.
II. Of ſimple apprehenſion and ſingular Terms.
III. Of Univerſal Terms.
IV. Of the diviſion of Ideas.
V. Of the Affections of Terms.
VI. Of Abſtraction.
VII. Some further Conſiderations reſpecting Comprehenſion, Extenſion, and Abſtraction.
VIII. Of Relation.
IX. Of the Prædicables.
X. Of the eſſential Difference, Property and Accident.
XI. Of the Categories.

## THE SECOND PART

Contains twelve Chapters, viz.

Chap. I. Of Judgment and Propoſitions in general.
II. Of pure and modal propoſitions.
III. Of the abſolute affections of Propoſitions, viz. Quantity and Quality.
IV. Of the Quality of Propoſitions.
V. Of the Quantity and Quality of Propoſitions, conſidered together.
VI. Of the relative Affections of Propoſitions, viz. Subalternation, Converſion, and Oppoſition.
VII. Of Converſion.
VIII. Of Oppoſition.
IX. Of Compound Propoſitions.
X. Of Propoſitions compounded in ſenſe.
XI. Of Definition.
XII. Of Diviſion.

## THE THIRD PART

Contains eighteen Chapters, viz.

Chap. I. Of the third operation of the mind, viz. Diſcourſe, or Reaſoning.
II Of ſimple Syllogiſms.
III. Of the matter of a Syllogiſm, and the Figures.
IV. Of the Axioms, and general rules of Syllogiſms.
V. Of the Special rules of Syllogiſms.
VI. Some further particulars relative to the Special rules.
VII. Of the Modes of Syllogiſms.
VIII. Of Reduction.
IX. Of Reduction, per Impoſſibile.
X. Of Hypothetic Syllogiſms.
XI. Of Disjunctive Syllogiſms.
XII. Of Dilemma.
XIII. Of the Sorites.
XIV. Of Enthymemes.
XV. Of Induction.
XVI. Of Example.
XVII. Of Sophiſms.
XVIII. Of Method.

15 OC 61

# A
# CONCISE SYSTEM
# OF
# *LOGICS, &c.*

LOGIC, or the Art of Reaſoning, is as ancient as reaſon itſelf, or, as ancient as the firſt rational being, although in the beginning, it was not reduced to a ſyſtem. It was by ſagacity and the unremitting attention of a few individuals, that this, as well as all the arts and ſciences, have been gradually brought to the flouriſhing ſtate in which they at preſent are.

The firſt who attempted to reduce Logic, or the Art of Reaſoning, to a ſyſtem, was, *Zeno*, of *Eleas*, but, very little was done, until the days of Ariſtotle; this enlightened philoſopher, paid particular attention to the ſubject, and did as much in the buſineſs, or probably more, than all who ſucceeded him, up to the preſent day, for, in ſhort, he left nothing to be done, and it would be happy for mankind,

mankind if they had not attempted to proceed further, and much happier for them, if the rules of reaſoning had never been at all reduced to ſuch a ſyſtem, particularly, in matters of Religion, Politics, Morality and others, which regard the common concerns of life, and our future happineſs or miſery. In natural philoſophy, the mind can proceed to any length, without the aſſiſtance of Logical rules. It was not by Logical rules, that the *Chaldeans*, or *Egyptians*, diſcovered the motions, of the heavenly bodies, for this was before Zeno or Ariſtotle. After the the Art of Logics had been ſufficiently eſtabliſhed by Ariſtotle, every ingenious man could prove, by the aſſiſtance of his middle terms, whatever he pleaſed, even improbabilities, and after, by the force of his Logical reaſoning, he had acquired to himſelf, an opinion from the multitude, of his being an able and learned man, he might then manage them, as Mahomet did his followers, with reſpect to the motion of the mountain. Hence ſprung, in a great meaſure, the various Heterodoxies in the primitive Chriſtian churches, when, from Intereſt, Revenge, Avarice, Ambition, or any other human conſideration, a man of abilities and perſuaſion, was induced to deviate from others, and inſtitute a ſect for himſelf. He never was at a loſs to get a middle term, from ſome book, in either, the old, or new Teſtament, which, he connecting, with other terms, of his own invention, formed from this middle term, what ſyſtem of religion, &c. he pleaſed; of this, any man may be convinced, who reads old ſyſtems of Logics, for, he will, be immediately able to perceive, from the examples adduced, and the ſpecies of reaſoning uſed, of what Religion, or way of thinking, with reſpect to the Deity, the writer had been; for, they always (in every poſſibe inſtance) bring arguments or middle terms, to confirm their own favourite opinions, which their hearers, or readers, ſwallowing with avidity, will ever after embrace and defend, although ever ſo abſurd, and thus willfully, and in a manner, with open eyes, impoſe on themſelves and others; when this habit has once taken root, it operates as a perfect conviction, which it will be almoſt impoſſible to remove, becauſe, forſooth, it is imprinted on their minds, by what they called their reaſoning otherwiſe, their Logics: ſo I leave my readers to examine impartially, if a middle Term, taken up with prejudice, and without any connection with the extremes, taken up with a like prejudice, ought to have any weight. It is on the foregoing grounds, that I moſt heartily condemn moſt of the ſyſtems of Logics (ancient and modern) which I have read, as tending to bias, and confirm the mind of a young man, to ſome ſyſtem, which, (although ever ſo ingeious), may make him a prejudiced member of ſociety. I therefore ſimply and conciſely, lay down the Rules of Logic with examples, taken from the moſt obvious or common occurrences of life, and about which, there can be no controverſy, as being ſelf-evident truths, without, in the leaſt entering into Metaphyſical, Theological, or any other ſcientific Diſquiſitions: by the aſſiſtance of thoſe Rules, every man may chooſe to himſelf, that he pleaſes, without forcing his natural inclinations, and thus, with freedom of ſentiment, and a liberality, in the diſcuſſion of different ſubjects, be able, to act the part of a juſt man, and a friend to mankind. After being ſufficiently acquainted with the general outlines of the art, it may be a very eaſy matter to acquire a ſufficient knowledge of Metaphyſics, by reading treatiſes relative to the ſubject, as Lock, Berkly, Lubnitz, Reid, &c. &c. &c.

15 OC 61

# PART THE FIRST.

## *Of LOGIC in general.*

### CHAP. I.

Q. WHAT is Logic?

A. The art of uſing reaſon rightly, in acquiring and communicating knowledge.

Q. What is reaſon?

A. That faculty of the mind, by the uſe of which, we diſcover certainty in ſome things, and probability in others.

Q. What are the objects of logic?

A. The operations of the human mind.

Q. How many principal operations of the human mind are there?

A. Four: viz. ſimple apprehenſion, judgment, reaſoning, and method, of which we mean to treat in their order.

### CHAP. II.

### *Of ſimple Apprehenſion and ſingular Terms.*

Q. What is ſimple apprehenſion?

A. That operation of the mind, by which it receives ideas.

Q. What is meant by the word idea?

A. The original meaning of it ſignified ſimilitude, or likeneſs, but it is uſed by the moderns in a two-fold ſenſe; firſt, the perception of the impreſſion of external objects, on any of our ſenſes: ſecondly, the operations, or actions of the mind, about thoſe external impreſſions.

Q. What is the ordinary mode of conveying thoſe ideas from one to another?

A. By words, in a logical ſenſe, called terms.

Q. How many fold are terms?

A. Two-fold, ſingular and univerſal.

Q. What is a ſingular term?

A. That which can be attributed, as a name to an individual; as, *Peter*, *England*, *York*, &c. &c.

## CHAP. III.

### *Of Univerſal Terms.*

Q. What is an univerſal term?

A. That which can be attributed, as a name to many individuals.

Q. How many fold are univerſal terms?

A. Two fold, univocal and equivocal.

Q. What is an univocal term?

A. That which can be attributed to ſeveral individuals in the ſame ſenſe. Thus, the term *Man*, can be attributed to *Alexander*, *John*, &c. &c. The term *City*, to *New-York*, *London*, *Paris*, &c.

Q. What is an equivocal term?

A. That which can be attributed to ſeveral individuals, but in different ſignifications, as, the term *Poſt*, may be applied to *a piece of timber*, and to *a Meſſenger*, or *Letter-carrier*. The term *Fair*, to *a beautiful object*, and to *a Congregation of people aſſembled for the purpoſe of buying and ſelling*.

Q. Why are the ſame words uſed in different ſignifications?

A. This ariſes (amongſt other cauſes) from the ſcantineſs of language, for it is almoſt impoſſible for any language, to have different words for the different ideas, which the mind of man is capable of forming: This is ſtrongly exemplified in the Chineſe language, which contains not more than between three and four hundred words.

## CHAP. IV.

### *Of the Diviſion of Ideas.*

Q. How many fold are ideas?

A. Two, ſimple and complex.

Q. What is a ſimple idea?

A. An uniform appearance in the mind, which cannot be divided into parts, as, *White*, *Sweet*, *Round*, *Acute*, *Hard*, &c.

Q. What is a complex idea?

A. A combination of ſeveral ſimple ones, as, *a Globe*, is a combination of the ſimple ideas, *Round*, *Hard*, *Variegated body*, &c.

# CHAP V.

## *Of the affections of terms.*

Q. How many principal affections of terms are there?

A. Four, viz. Comprehenſion, Extenſion, Abſtraction, and Relation.

Q. What is the comprehenſion of a term?

A. The aggregate of all the ſimple ideas, which make up the complex idea, which, the term ſignifies. Thus, the comprehenſion of an *artificial Globe*, is made up of the ſimple ideas, *Round*, *Hard*, *Variegated body*, together, with all the different materials, which enter into the compoſition, both, internally (as the wood and paper of which it is made) and externally (as a delineation of the different parts of the earth), for ſuch is the complex idea, that we have of an artificial globe, and is therefore it's comprehenſion.

Q. What is the extenſion of a term?

A. An aggregate, of all the individuals, which belong to that name, as, the extenſion of an artificial globe, not only includes one, but all the artificial globes, in the world: The extention of the term *Man*, not only includes one individual, but all the men in the world. It is evident, that, as the extenſion increaſes, the comprehenſion muſt be diminiſhed, and *Vice verſa*, as will appear, in the two following chapters.

CHAP.

## CHAP. VI.

### *Of abſtraction.*

Q. What is abſtraction ?

A. The ſeparate conſideration, of ſome of the ideas, belonging, to any individual, omitting the others.

Q. What ideas are ſeparated from the individual, by abſtraction ?

A. The ideas, which are peculiar to the individual, and thoſe are left behind, which it has in common with other individuals ?

Q. What is the advantage of this ?

A. It ſerves, to generalize our ideas, for, by removing all the ideas, particular to that individual, the remaining ones, no more belong to it, than to many others.

Therefore, all thoſe, which have a degree of ſimilarity, may be claſſed under one general idea, and a general name given to it. Example, *Separate from any individual man, the conſideration of his exiſting in a certain place, at a certain time, likewiſe, the particularity of his ſhape, and features, he will no longer be more that certain individual, than ſome other man.* Again, *Separate from the idea, you have of man in general, Rationality, together with ſome other circumſtances, which are peculiar to man alone. He is no more man, than ſome other animal of the creation.* Next, *Separate the ideas of ſenſation and locomotive* *faculty, you reduce him to a mere vegetable.* If you proceed to abſtract further, you bring him to the ſtate of inanimate matter, and laſtly, to the moſt general, we can conceive, viz. *Subſtance*, or *Being*.

Q. What is the advantage of thus generalizing our ideas by abſtraction?

A. Firſt, it enables us, to conſider, many individuals, at once, under the ſame general head, and name, by which, language is much benefitted, ſince, it would be impoſſible, and uſeleſs, to have names for all the individuals, that come within our knowledge.

Secondly, It ſo arranges our ideas, that, by this means, we can more ſhortly arrive, at general knowledge, than, if we were not poſſeſſed of this faculty.

Q. What is the foundation of abſtraction?

A. The ſimilarity, which certain things (in exiſtence) have to each other. For ſimilar objects are ranked in the ſame claſs, as any individual is called Man, becauſe, he has a nearer likeneſs to the ſort of beings, which, we denominate Man, than to any other ſort.

## CHAP. VII.

### *Some further conſiderations reſpecting Comprehenſion, extenſion and abſtraction.*

Q. How does abſtraction affect the comprehenſion of an idea?

A. It diminiſhes it, ſince, abſtraction conſiſts, in taking away ſome of the ideas, and the comprehenſion conſiſts in an aggregate of all the ideas.

Q. How does abſtraction affect the extenſion?

A. It encreaſes it, for, ſince abſtraction ſeparates the ideas, and that extenſion cannot be encreaſed, without removing the ideas, that are peculiar to the individual, or ſort, it muſt neceſſarily encreaſe it.

*N. B.* It was before menti oned in Chap. 5. that diminiſhing the comprehenſion, encreaſes the extenſion, and *vice verſa.* This might appear pretty evident, from this, and the foregoing Chapter, but for illuſtration. The extenſion of a term cannot be encreaſed, without taking away ſome of the ideas, and ſince, all individuals are in ſome reſpects, diſſimilar, they cannot be brought under the ſame claſs, without looſing this diſſimilarity, that is, without looſing ſome of their ideas, or comprehenſion, but bringing them under any claſs, or general name, is encreaſing the extenſion of any idea, which diminiſh the comprehenſion, and *Vice verſa.*

## CHAP. VIII.

### *Of Relation.*

Q. What is relation?

A. It is the reference, which any one idea ars to another, ſo far, that when one idea comes into the mind, it immediately repreſents ſome one, or more ideas, connected, with it, as, the idea of a *father carries with it, the conſideration of a child*, a *Maſter, that of a ſervant*, a *Huſband, that of a Wife*, &c.

Q. What are relative and correlative terms?

A. A relative term, is, the idea, that firſt occurs. A correlative is, the conſideration of that which is inferred, as if the idea of a Father, firſt occurs, it is the *Relative*, and the idea of a Child, which it infers, is the *Correlative*.

Q. Whence comes the infinity of Relations?

A. From the number of references, that every object we are acquainted with, is capable of bearing to others, for example, the ſame perſon may be, at the ſame time, *Maſter, Father, Son, Landlord, Tenant, General, Godfather, Godchild*, &c. &c.

## CHAP. IX.

### *Of the Prædicables.*

Q. What is meant by the Prædicables?

A. They ſignify claſſes of univerſal ideas, and are five in number, viz. Genus, Species, Eſſential Difference, Property, and Accident.

Q. What is the Genus?

A. The name of an univerſal idea, which contains under it, two or more, which are

likewi

likewiſe univerſal. Thus, *Animal*, is the name of an univerſal idea, which contains under it two; as *Man*, and *Brute*. *Tree*, contains under it, *Aſh*, *Oak*, *Elm*, *Cedar*, &c.

Q. What is meant by the Species.

A. It is the name of an univerſal idea, contained under a more univerſal, as, *Man*, is the name of a Species, contained under the more univerſal idea *Animal; Oak*, is contained, under the more univerſal term, *Tree*.

Q. How many-fold is the Genus?

A. Two, the higheſt, and the ſubaltern.

Q. What is the higheſt?

A. The name of that which has not a more univerſal above it.

Q. What is the ſubaltern?

A. The name of any univerſal idea, which may be contained under a more univerſal, until you come to the loweſt univerſal, in the gradation.

Q. How many-fold is the Species?

A. Two, the loweſt and ſubaltern.

Q. What is the loweſt?

A. The name of the loweſt univerſal idea, in the gradation, and which contains under it, only individuals.

Q. What is meant by the ſubaltern Species?

A. The names of the univerſal ideas contained between the loweſt Species, and higheſt Genus, every one of which is a Genus, with reſpect to its inferiors, and a Species, with reſpect to its ſuperiors, as in the following ſcale. *Man is the loweſt ſpecies,* as it only contains under it individuals, as *Peter*, *John*, &c. *Animal* is the next, in the aſcending gradation, as it contains under it, *Man* and *Brute*. *Living Subſtance*, is next, as containing under it, *animal* and *vegetable*. *Body*, is next, containing under it, both animate and inanimate matter. *Subſtance*, is the higheſt, containing under it, *Material* and *Spiritual Beings*. Here we cannot aſcend higher, as, the limits of our underſtanding, cannot find out a higher Genus.

We ſee then, Man the loweſt Species, which cannot be a Genus, as, containing under it the name of no univerſal idea, and Subſtance, the higheſt, which cannot be a Species, as, being contained, under no higher. The intermediates, *animal*, *living ſubſtance*, and *body*, may be in one reſpect Genus's, and in another Species.

Q. How do the Genus and Species differ, with reſpect to comprehenſion?

A. The Genus has leſs comprehenſion, becauſe there muſt be ſome idea left out of the Species, to make, the remaining ones conſtitute the Genus; Thus, to make, the Species *Man*, correſpond in every reſpect, with *Animal*, the idea meant by rationality, or reaſoning faculty, muſt be left out, and then, the remaining part of the comprehenſion, agrees with *Brute*, as well as with *Man*.

Q. Which hath the greater extenſion, Genus or Species?

A. The Genus, for there muſt be ſome of the ideas conſtituting the ſpecies left out, to make the remaining ones conſtitute the Genus, and of courſe, thoſe remaining ones muſt extend to a greater number of individuals, by which, the extenſion is encreaſed; thus, in the former example, it is evident, that the idea repreſented by the term *animal*, has greater extenſion, than the idea repreſented by the term *Man*.

## CHAP X.

### *Of the Eſſential Difference, Property, and Accident.*

Q. What is meant by the eſſential difference?

A. The name of the principal eſſential idea, contained, in any univerſal idea, and which, renders that univerſal idea, what it is, diſtinct from all others. Thus, the idea, meant by the term *Rationality*, is the eſſential idea, conſtituting, the univerſal idea, meant by the term *Man*, in itſelf diſtinct from all other univerſal ideas. It muſt here be mentioned, that, the term eſſential, ſignifies, the name of an idea, without which, the univerſal idea, to which it belongs, could not exiſt diſtinct, and which, in fact, conſtitutes, in a great meaſure, its being.

Q. What is meant by a Property ?

A. The name of an eſſential idea, but not the principal one, but, depending thereon, as *a choice of thouhgt*, is a property, belonging to man, depending on, and reſulting from rationality.

Q. What is meant by accident ?

A. The name of an attribute, found in any object, which is not neceſſary for its exiſtence, but ſeparable, either mentally, as the idea of *blackneſs*, or *whiteneſs*, from man, or actually, as, the ſeparation of heat or cold.

## CHAP. XI.

### *Of the Categories*

Q. What is meant by the Categories ?

A. They ſignify, the claſſification, or, arrangement of things exiſting, under certain heads.

Q. What advantage was ſuppoſed, to be obtained, from this arrangement ?

A. An acquaintance, with the nature of the different claſſes, for, people ſuppoſed, that, while the objects of thinking, lay in a confuſed heap, before their underſtanding, that, little progreſs could be made, towards knowledge.

Q. How far, have logicians ſucceeded in this ?

A. A ſhort

A. A ſhort way, becauſe, they were more engaged in words, and argumentation, than, in improving real knowledge. And it is proved by the methods, deviſed by Sir *Francis Bacon*, for the improvement of natural philoſophy, that ſuch hypothetical ſyſtems not correſponding with things in exiſtence, contributed more to darken, than improve, the ſphere of human knowledge.

Q. How does it appear, that thoſe claſſes did not correſpond, with things exiſting?

A. Becauſe, their inventors could ſcarcely agree in their number, much leſs in their real nature. Some, making the number 10 as, *Subſtance*, *Quantity*, *Quality*, *Relation*, *Time*, *Place*, *Action*, *Paſſion*, *Situation*, *Habit*. Others, into two, as, *Subſtances and Accidents*. Others, into two, again, as, *Subſtances, and Modes*. Others, into three, as, *Subſtances, Modes, and Relations*, &c. &c. Therefore, to proceed further, with the categories is uſeleſs.

END OF THE FIRST PART.

15 OC 61

# PART THE SECOND.

## CHAP. I.

### *Of Judgment and Propoſitions in general.*

Q. WHAT is Judgment?

A. The uniting of one idea to another, or of any number of ideas to another number.

Q. What is a propoſition?

A. Judgment, expreſſed in words.

Q. What are the parts of a propoſition?

A. Two, viz. Subject and Prædicate.

Q. What is the ſubject?

A. The name of the idea, or number of ideas, of which any other idea, or number of ideas, may be affirmed or denied.

Q. What is the prædicate?

A. The idea, or number of ideas, which may be affirmed, or denied, of any other idea or number of ideas: as, *Man*, is an animal, here, Man is the ſubject, and *Animal* the prædicate. Again, *a good citizen, who honeſtly performs the duties of his office, is an ornament, to every well regulated government.* Here, the firſt part, as far, as the word is, is the ſubject, and the latter part, is the prædicate; from whence, may be ſeen, that not one word alone, but, many united, in a ſentence, may be the ſubject, or prædicate of a ſimple propoſition.

Q. How many fold are propoſitions?

A. Two, ſimple and compound.

Q. What is a ſimple propoſition?

A. That, which cannot be reſolved, into more propoſitions than the firſt, without changing, its original meaning; a compound, is that which can be reſolved, into more than one.

Q. What unites the two parts, of a ſimple propoſition?

A. A part of a verb ſubſtantive, as, *is*, *are*, *have*, *been*, *will be*, &c. and if any other verb occurs, it muſt be reſolved, into a part of the verb ſubſtantive, and the participle of the verb that occurs, the reaſon of which will be explained, in the chapter of converſion: as this propoſition, *a Man eats*, is changed into, the propoſition, *a Man is eating*.

Q. How are the ſubject and prædicate to be diſtinguiſhed, from each other, in a propoſition?

A. By the ſenſe of the words, and not by their poſition, for, very often, the ſubject is, in the laſt place, and the prædicate, in the firſt place, in the propoſition: as *Nobility is the ſole and only Virtue*. Here, *Virtue* is the ſubject, and *Nobility* the prædicate.

CHAP.

## CHAP. II.

### *Of Pure and Modal Propoſitions.*

Q. What is a pure propoſition ?

A. When it is only expreſſed, that, the Prædicate agrees with the ſubject.

Q. What is a Modal propoſition ?

A. When, the way and manner, in which the. Prædicate agrees, with the ſubject, is expreſſed.

Q. How many modes are there, of connecting the Prædicate, with the ſubject ?

A. Four, Neceſſity, Contingency, Impoſſibility, and Poſſiblity.

Q. What is Neceſſity ?

A. When every part of the extent, of the ſubject, agrees with, and is contained under the Prædicate ; as, every *Man* is an *Animal.*

Q. What is contingency ?

A. When only a part of the extent of the ſubject agrees with, and is contained, under the Prædicate, as ſome *Man is juſt.*

Q. What is impoſſibility ?

A. When the whole extent of the ſubject, is not contained, under, nor agrees with, the Prædicate, nor any part of it, as no *Man is a ſtone.*

Q. What is poſſibility ?

A. When, a part of the extenſion, of the ſubject, is not contained under, nor agrees with, the Prædicate, as *ſome Man is not juſt.*

Here it is to be noted, that in modal propoſitions, the mode is the Prædicate, and the pure part of the modal propoſition, the ſubject, as, it is neceſſary, for a *Man to* be an *Animal*; neceſſary is the mode, and Prædicate, and *Man* to be an *Animal*, is the pure part of the propoſition, and the ſubject.

## CHAP. III.

### *Of the Abſolute Affections of Propoſitions, viz. Quantity and Quality.*

Q. What is meant, by the abſolute affections of propoſitions?

A. Thoſe affections, which belong to propoſitions, conſidered ſingularly, by themſelves.

Q. Which are the abſolute affections?

A. Quantity and quality.

Q. What is meant by the quantity, of a propoſition?

A. Its univerſality, or particularity.

Q. How are propoſitions divided, with reſpect to quantity?

A. Into three ſpecies; univerſals, particulars, and ſingulars.

Q. What is an univerſal propoſition?

A. When, the ſubject is an univerſal term, taken in its whole extent, as *every Man* is an *Animal*.

Q. What is a particular propoſition?

A. When the ſubject is an univerſal term, taken, in a part of its extent, as, *ſome Man is juſt*.

Q. What is a ſingular propoſition ?

A. When, the ſubject is a ſingular term, as, *Peter is juſt*. Here, it is to be remarked that, a fourth ſpecies of univerſality, might be added, called, indefinites, without any mark of quantity, as, a *Man* is an *Animal*, a *Man is juſt*, but, by conſidering the modes, in the foregoing Chapter, all thoſe indefinites will be found, to be either univerſals, or particulars.

## CHAP. IV.

### *Of the Quality of Propoſitions.*

Q. What is meant by the quality of propoſition ?

A. Their being affirmative, or negative.

Q. What is an affirmative propoſition ?

A. When the Prædicate agrees with the ſubject, that is, when, the whole extenſion of the ſubject is contained in the extenſion of the Prædicate.

Q. What is a negative propoſition ?

A. When the Prædicate diſagrees with the ſubject, that is, when the whole extenſion of the ſubject, is not contained, in the extenſion of the Prædicate, nor in the extenſion of any of the parts, of the Prædicate, that is, in the extenſion, of any of the ſpecies, contained under the Prædicate, if it be a Genus, nor in the extenſion of any of its individuals, if it be the loweſt ſpecies.

Q. Can any part of the extenſion of the ſubject be contained, in the extenſion of the Prædicate, in negative propoſitions?

A. All the ideas, or attributes, of the ſubject, cannot be contained, in the extenſion of the Prædicate, in this caſe, for, this would be reducing it, to an affirmative propoſition; but ſome of them may, nay, neceſſarily muſt be contained, in the extenſion of the Prædicate. Since, we ſcarcely know of any two objects, that preſent themſelves to our ſenſes, or imagination, which have not ſome ideas, or, attributes, in common, as, *Body* is common to all the objects of ſenſe. Life, is common to all vegetables, and animals; but, it is ſufficient for a propoſition, to be negative, that there ſhould be one idea or attribute, in the comprehenſion of the Prædicate, which is not in the comprehenſion of the ſubject; as, no *Brute* is a *Man*. Thoſe differ, in the idea, of rationality.

## CHAP. V.

### *Of the Quantity and Quality of Propoſitions conſidered together.*

Q. How are propoſitions divided, with reſpect to quantity and quality together?

A. Into univerſal affirmatives, univerſal negatives, particular affirmatives, and particular negatives which are to be denoted, by the four vowels, A, E, I, O. A, denoting an univerſal affirmative, E, an univerſal negative, I, a particular affirmative, and O, a particular negative.

Q. On what does the quantity of the terms of a propoſition depend?

A. The quantity of the ſubjects of propoſitions, is always, as, the quantity of the propoſitions themſelves; as, in every univerſal propoſition, the ſubject is univerſal, and, in every particular propoſition, the ſubject is particular.

Q. On what does the quantity of the prædicates of propoſitions depend?

A. On the quality of the propoſition, as, in every affirmative propoſition, the prædicate is particular, and in every negative propoſition, the prædicate is univerſal.

Q. Why is the prædicate of affirmative propoſitions particular?

A. Becauſe, in affirmative propoſitions, although, the prædicate is an univerſal term, when conſidered ſeparately, yet, when connected with the ſubject, in the propoſition, there is only one part preſents itſelf to view: viz. that part which agrees with the ſubject, and that part of it, we conſider only, therefore, we have no reaſon to conſider the other part; nor of courſe, the whole together. Example, *Man is an animal:* Here, we view no part, of the term, Animal, but that part, which is Man, we leave out of conſideration, the other part, viz. *Brute*; therefore, the prædicate muſt be particular, in all affirmative propoſitions, except, where, the ſubject and prædicate are reciprocal, that is, have the ſame extenſion, and comprehenſion, as, *Man is a rational Animal*,.

Q. Why is the prædicate of a negative propoſition univerſal ?

A. Becauſe, ſince the prædicate taken by itſelf, is an univerſal term, as, the conſideration of its whole extent is excluded, from the conſideration, of the extent of the ſubject, it is to be taken univerſally, or in its whole extent : as, *no Man is a Stone*, here, the whole extenſion of the term *Stone*, is excluded, from the extenſion of the term *Animal*, and, therefore, the term *Stone*, is taken in its whole extenſion.

## CHAP. VI.

### *Of the relative affections of Propoſitions, viz. Subalternation, Converſion, and Oppoſition.*

Q. What is ſubalternation ?

A. The deducing, a leſs univerſal propoſition, from a more univerſal, or, a particular, or ſingular, from any univerſal, as, if *every Animal reſpires*, it follows, *that every Man reſpires*. *If every man is rational*, it follows, *that ſome Man is rational*, and that *any individual is rational*, as, *John*, *William*, &c.

Q. What is the uſe of ſubalternation?

A. By it, we deduce, the truth or falſehood, of one propoſition from another.

Q. How many rules are there, of deducing the truth, or falſehood, of one propoſition from another?

A. Four: firſt, the truth of an univerſal propoſition infers, the truth of all the general, or particular propoſitions, contained under it, as, if it be true, that *every Animal reſpires*, it is true, that *every man reſpires*, if *every man is rational*, *ſome men are rational*: for, if the prædicate contains, the whole extenſion of the ſubject, in its extenſion, it will likewiſe contain, a part of it.

Q. What is the ſecond rule?

A. The falſehood, of a particular infers, the ſalſehood, of the univerſal, which has the ſame terms for its ſubject, and prædicate, that it has, as, if it be falſe, that *ſome men are juſt*, it is falſe, that every man is juſt, for, if it be falſe, that the prædicate contains a part of the extenſion, of the ſubject, it is falſe, that it contains the whole.

Q. What is the third rule?

A. The truth of a particular does not infer the truth of an univerſal; as, if it be true, that *ſome men are juſt*, it does not follow from this, that *every man is juſt*, for, if the prædicate contains a part, of the extenſion, of the ſubject, it does not follow, that it contains the whole: hence, it follows, that an argument,

from

a particular, to an univerſal, will not be valid, for, if any term of a propoſition, be particular, a part of it only can agree, or diſagree, with the other term.—Of the other part of the term, nothing can be inferred, and of courſe, nothing can be inferred of the whole, taken together; as, if it be true, that *one man ſleeps*, it does not follow, that *every man ſleeps*.

Q. What is the fourth rule?

A. The falſehood of an univerſal, does not infer, the falſehood of a particular, as, if it be falſe, that *all men are juſt*; it does not follow, that *ſome men are not juſt*, for, although it be falſe, that the prædicate contains the whole extenſion of the ſubject, it may, nevertheleſs, contain a part?

Q. How does it appear, that the ſecond rule is contained in the firſt?

A. Becauſe, if the falſehood of a particular, did not infer, the falſehood, of an univerſal, the univerſal, might be true, and the particular falſe, but, by the firſt rule, whenever the univerſal is true, the particular muſt be ſo too.

Q. How does it appear that the fourth rule is contained, in the third?

A. Becauſe, if the falſehood of the univerſal, did infer, the falſehood, of the particular, the particular could never be true, and the univerſal falſe, which is, as much as, that the truth of a particular, did infer the truth, of an univerſal, contrary to the third rule.

CHAP.

## CHAP. VII.

### *Of Converſion.*

Q. What is converſion?

A. The tranſpoſition of the prædicate, into the place of the ſubject, and *vice verſa*, preſerving the truth.

Q. What is meant by preſerving the truth?

A. If, the propoſition be true, before converſion, it is true after converſion, for one ſhould follow from the other.

Q. How many ſpecies of converſion are there?

A. Three: Simple, Accidental, and by Contrapoſition.

Q. What is ſimple converſion?

A. When the quantity, and quality, of the propoſition is preſerved, that is, if it be univerſal before, it will be univerſal after converſion, and, if particular before, it will be particular after; if negative before, it will be negative after; and if affirmative before, it will be affirmative after.

Q. What ſpecies of propoſitions are converted ſimply?

A. Univerſal negatives, and particular affirmatives.

Q. Why are univerſal negatives converted ſimply?

A. Becauſe, ſince the propoſition is negative, its prædicate is univerſal (ſee Chap. V). And, if this prædicate be made the ſubject, it will be ſtill univerſal, and of courſe, the propoſition itſelf, (after converſion) will be univerſal, (ſee Chap. V.) and it will be negative, ſince converſion does not affect its quality, as, *no Man is a Stone*, therefore, *no Stone is a Man*.

Q. Why is a particular affirmative converted into a particular affirmative?

A. Becauſe, ſince, the propoſition is affirmative, its prædicate is particular, (ſee Chap. V.) And, if this prædicate is put into the place of the ſubject, it will be ſtill particular, and of courſe, the propoſition itſelf will be particular, (ſee Chap. V.) and it will ſtill be affirmative, as, converſion does not affect the quality, as, *ſame Man is juſt*, therefore, *ſomething juſt is Man*.

Q. What is accidental converſion?

A. When the quantity of the propoſition is changed, the quality being preſerved, as, an univerſal is converted, into a particular, but not, *vice verſa*.

Q. What propoſitions are converted accidentally?

A. An univerſal affirmative alone, for, ſince, the propoſition to be converted, is affirmative, its prædicate is particular, (ſee Chap. V.) therefore, if this particular prædicate, is put in place, of the univerſal ſubject, the propoſition muſt be particular, (ſee Chap. V.) for, if it was made univerſal, it would be an argument, from a particular to an univerſal, ſee Chap. VI. and the propoſition will be ſtill affirmative, ſince, converſion does not change the quality, as *every man is an animal*, therefore, *ſome animal is man*.

Q. How are particular negatives converted?

A. They are not converted, becauſe, ſince, the ſubject is particular, if it was put in place of the prædicate, it muſt become the prædicate of a negative propoſition, of courſe, univerſal, which, would be changing the particular ſubject, into an univerſal prædicate, which would be an argument, from a particular, to an univerſal.

Q. What is converſion by contrapoſition?

A. When, after the tranſpoſition of the terms, the contradictories of the terms, are ſubſtituted, for them, as, *every man is an animal*, by contrapoſition, *what is not animal, is not man*, but this ſort of converſion, being by no means ſubſervient, to the end, which we aim at, we therefore omit, any further diſquiſition of it. The converſion of ſingular propoſitions we likewiſe omit, as, no way ſubſervient, either to argumentation or general knowledge.

## CHAP. VIII.

### *Of Oppoſition.*

Q What is oppoſition?

A. A difference in quality, between propoſitions, having the ſame ſubject, and the ſame prædicate.

Q. How many ſpecies of oppoſition are there?

A. Three: viz. Contradictory, Contrariety, and Subcontrariety.

Q. What is a contradictory oppoſition ?

A. That, which takes place, between an univerſal affirmative, and a particular negative, or, between an univerſal nigative, and a particular affirmative.

Q. What is the general rule of contradictory propoſitions?

A. One muſt be always true, and the other falſe, becauſe, the prædicate either agrees with the whole ſubject, or differs from the whole of it, or agrees with a part, and differs from the other part.

Q. What will be the conſequence, if, it agrees, with the whole ſubject?

A. The affirmative will be true, and the negative falſe, as, *every man is an animal*, is true, *no man is animal,* is falſe.

Q. What is the conſequence, if, it differs from the whole ſubject ?

A. The negative will be true, and the affirmative falſe, as, *no man is a ſtone*, is true, that, *every man is a ſtone*, is falſe.

Q. What will be the caſe, if it agrees with a part, and differs from a part?

A. The particular will be true, and the univerſal falſe, as, it is true, that *ſome man is juſt*, but it is falſe, that, *every man is juſt*.

Q. What is contrariety ?

A. An oppoſition, between two univerſals, as, an univerſal affirmative, and, an univerſal negative.

Q. What is the rule of contrarieties.

A. They may be both falſe, at the ſame time, but cannot be both true at the ſame time, for, if the prdæicate agrees, with the whole ſubject, the affirmative will be true, and the negative falſe; as, *every man is an animal,* is true, *no man is an animal,* is falſe, if the prædicate diſagrees with the whole ſubject, the negative will be true, and the affirmative falſe; as, *no man is a ſtone,* is true, *every man is a ſtone,* is falſe; if it agrees with a part, and differs from a part, they will be both falſe, as *every man is juſt; no man is juſt,* are both falſe.

Q. What is ſubcontrariety?

A. An oppoſition, between two particulars.

Q. What is the rule of ſubcontrarieties?

A. They may be both true, at the ſame time, but not both falſe, for, if the prædicate agrees with the whole ſubject, the affirmative will be true, and the negative falſe, as, that *ſome man is an animal,* is true; that *ſome man is not an animal,* is falſe, if it diſagrees, from the whole ſubject, the negative will be true, as, *ſome man is not a ſtone,* and the affirmative falſe, as, *ſome man is a ſtone,* if, it agrees with a part, and differs from a part, they will be both true, as, *ſome man is juſt, ſome man is not juſt.*

Q. Why is not ſubcontrariety properly a ſpecies of oppoſition?

A. Becauſe, it is contrary to the difinition of oppoſition, for, here it is neceſſary, that the ſubjects, and prædicates, ſhould be the ſame, but, in the ſubcontraries, the ſubjects are different, as, *ſome man is juſt, ſome man is not juſt* ; for, the ſame man, cannot be, at the ſame time, juſt and unjuſt.

Q. How is it proved, that, two contradictories cannot be at the ſame time, true or falſe, by the rules in Chap. VI.

A. Becauſe it is impoſſible that the prædicate could, at the ſame time, agree with the whole ſubject, and differ, from a part, or, diſagree, with the whole, and agree, with a part; as, the truth of an univerſal, infers, the truth of a particular.

Q. How is it proved, by the ſame rules, that, two contraries, cannot be at the ſame time, true?

A. Becauſe, then the contradictories would be true, for, ſince the oppoſition is, between two univerſals, viz. an affirmative, and a negative, and, that the truth, of the univerſal affirmative, infers the truth, of a particular affirmative, this particular affirmative, and the univerſal negative, which are contradictories, would be true.

Q. How is it proved, by the ſame rules, that, two ſubcontrarieties cannot be, at the ſame time falſe?

A. Becauſe, then, contradictories would be falſe, for, ſince the oppoſition is, between a particular affirmative, and a particular negative, and that the falſehood, of the particular negative infers, the falſehood of the univerſal negative, this univerſal negative, and the particular affirmative, which are contradictories, would be both falſe.

Q. To what ſpecies of oppoſition are ſingulars reduced?

A. To contradictories, for, ſince the ſubjects are the ſame, one of them muſt (in every caſe) be true, and the other falſe, as, *Peter is juſt*: *Peter is not juſt*, cannot at the ſame time be true, or, at the ſame time, falſe.

## CHAP. IX.

### *Of Compound Propoſitions.*

Q. How many ſpecies of compound propoſitions are there?

A. Two: viz. compound in words, whoſe compoſition is expreſſed, and compound in ſenſe, whoſe compoſition is concealed.

Q. How many ſpecies of propoſitions, compounded in words are there?

A. Six: copulatives, adverſatives, hypothetics, disjunctives, cauſals, and relatives.

Q. What is a copulative propoſition?

A. When the propoſition contains ſeveral ſubjects, or prædicates, or both, joined by a copulative particle; as, *and*, *neither*, &c. &c. as, *Socrates and Plato were learned, wiſe, and Athenians*, neither *Cæſar nor Anthony acted for the good of the Roman republic.*

Q. On what, does the truth of a copulative depend ?

A. On the truth, of all, the ſimple propotions, into which, it can be reſolved, for each Prædicate is prædicated, of each ſubject, as, *Socrates was learned*, *Socrates was wiſe*, and *Socrates was an Athenian*.

Q. How is the number of ſimple propoſitions, into which, any compound copulative, may be reſolved, determined ?

A. By multiplying the number of ſubjects and prædicates together, thus, four ſubjects, and three prædicates, make twelve ſimple proſitions.

Q. What is an adverſative propoſition ?

A. Where, ſeemingly oppoſite judgments are made, by means, of diſcretive particles, as *neverthleſs*, *although* as, *Job was patient, although his grief was great*.

Q. What is required, for the truth of adverſatives ?

A. Beſides the truth of the parts, ſome oppoſition is required, that is, ſome ſeeming contradiction, as in the above example, otherwiſe, it would be abſurd ; as, *although Waſhington is an American he is a Republican; although Socrates was an Athenian, he was a Philoſopher* ; for, nothing oppoſes, an American's being a Republican, nor, an Athenian's being a Philoſopher.

Q. Of what kind, muſt the oppoſition be, in adverſatives ?

A. Mediate, becauſe, if, it was immediate, the parts would not be true, but, the truth of the parts is required.

Q. What is an hypothetic propoſition?

A. A compound propoſition, the parts, of which, are connected, by the conditional particle, if.

Q. How many parts in the hypothetic?

A. Two, the antecedent, being the firſt part, or that from which, the ſubſequent part, or the conſequent follows, as, *if the Sun be fixed, the Earth muſt move.*

Q. What is required, for the truth of a hypothetic propoſition?

A. Nothing, but, that the latter part, or conſequent, ſhould follow, from the former, or antecedent, for, the parts may be falſe, and the propoſition itſelf true, as, *if, there is no God, there is no future ſtate,* and again the parts may be true, and the propoſition falſe, as, *if a Man has locomotive faculty, he has reaſon.*

Q. What is a disjunctive propoſition?

A. When, the ſubject is contained, in two or more prædicates, as, *every animal is either rational, or irrational.*

Q. What is required, for the truth, of a disjunctive propoſition?

A. That all the Prædicates, taken together, ſhould contain the whole extenſion, of the ſubject, and that the parts, ſhould be immediately oppoſite, that one ſhould not be either true, or falſe, at the ſame time, that the other is true, or falſe.

Q. What is a cauſal propoſition?

A. When the parts are joined by a cauſal particle, as, *Man is depraved, becauſe he follows evil counſel.*

Q. On what does the truth of cauſal propoſitions depend?

A. Not, on the truth of the parts, but, on the cauſal influence, that, the one part has, on the other, for the parts may be true, and the propoſition falſe, if the one part be not the cauſe of the other, as in the above example; for *a Man may be depraved, and follow evil counſel,* yet, his depravity may not ariſe, ſo much from evil counſel, as, from the impetuoſity, of his own paſſions.

Q. What is a relative propoſition?

A. That whoſe parts are connected, by ſuch particles, as expreſs a relation, or compariſon of things, to one another, as, *in proportion, to what you are worth, ſo much will you be eſteemed.*

Q. On what does the truth of a relative propoſition depend?

A. On the juſtneſs of the connection.

## CHAP X.

### *Of propoſitions compounded in ſenſe.*

Q. What are propoſitions compounded in ſenſe?

A. Thoſe whoſe compoſition is not expreſſed, or immediately perceived.

Q. How many ſpecies are there, of propoſitions, compounded in ſenſe?

A. Four: viz. excluſives, exceptives, comparatives, deſitives, or inceptives.

Q. What is an excluſive?

A. When the prædicate agrees, with the ſubject alone; as, *the wiſe man only is rich.*

Q. How is the compoſition of this explained?

A. Firſt: the prædicate agrees, with one part, of the ſubject as, *the wiſe man is rich.* Secondly, it differs from all others; as, *no man but the wiſe man is rich.*

Q. What is an exceptive?

A. When the prædicate agrees with all the parts of the ſubject, except one part; as, *all men but the wiſe man are mad.*

Q. How is the compoſition of this explained?

A. Firſt, it ſhews the prædicate to agree, with all parts of the ſubject, but one; as, *all men are mad.*—Secondly, it ſhews it to differ, from one part of it; as, *the wiſe man is not mad*

Q. What is a comparative?

A. Where a compariſon is underſtood to be inſtituted; as, *Pain is the greateſt affliction.*

Q. How is the compoſition of this explained?

A. Firſt, it ſhews the poſitive degree of the ſubject, as, *pain is an affliction*: and. ſecondly,

condly, it ſhews the comparative, or ſuperlative degree of it, as, *pain is greater than any other affliction.*

Q What are inceptive or deſitive propoſitions ?

A. Thoſe propoſitions, which relate to the beginning, or ending of any thing ; as, *America became Independent, in the year of Chriſt,* 1776.

Q. How is the compoſition of this explained ?

A, The firſt ſhews, the ſtate of the ſubject, at the period alluded to, as, *America was Independent, in the year of Chriſt,* 1776. The ſecond, the ſtate of the ſubject, previous to that period ; as, *America was not Independent, before the year of Chriſt,* 1776

## CHAP. XI.

### *Of definition.*

Q. What is definition.

A. The explanation of a term, which is unknown, which is done by other terms, not ſynonimous, with the term to be defined.

Q. How many fold is definition ?

A. Two fold : definition of a thing, and definition of a word.

Q. How do thoſe two differ ?

A. The definition of a word is arbitrary, that is, the perſon who defines it, may uſe any terms which he pleaſes, provided, the whole agrees with the common acceptation of the term, otherwiſe, it will be unintelligible.— but, the definition of a thing, muſt conſiſt of ſuch terms, as expreſs the obvious properties of that thing.

Q. How many fold is the definitions of a thing?

A. Two-fold: viz. firſt, perfect, which conſiſts of the genus, and eſſential difference, and, 2*ly*, deſcription, conſiſting of an enumeration, of all its properties, and attributes, the firſt is called the logical definition; and the laſt, the metaphyſical definition.

Q. Which of thoſe is the more preferable?

A. The logical definition is the ſhorteſt, but, that by an enumeration of the ſimple attributes, is beſt calculated for explaining the nature of the ſubject, as it enumerates moſt of the properties.—Beſides, the logical definition can only be uſed, in but few inſtances, ſince, in every caſe, the eſſential difference is not obvious.

Q. Are all terms capable of being defined?

A. No term is definable, but ſuch as, conſiſts of parts; and thoſe, which have not parts, can only be explained, by repreſenting the idea, which they ſignify, to the ſenſes, or naming the object in which it inheres; as, *a certain colour*, or *taſte*, can never be explained, except, by experience, that is, *preſenting* or *naming the object*, in which, it inheres.

Q. What is the firſt law of definitions?

A. That it ſhould be clear, that is, that all the attributes, which, belong to the thing, or word, to be defined ſhould be intelligible, as well, to the hearer, as to the definer.

Q. What is the ſecond law of definition?

A. That it ſhould he adequate, that is, that it ſhould contain, all the attributes of the thing to be defined, and neither more nor leſs, as far as can be done.

# CHAP. XII.

## *Of Diviſion.*

Q. What is Diviſion?

A. An enumeration of the parts which compoſe a whole.

Q. How many fold is diviſion?

A. Two: diviſion, which ſignifies an enumeration of the ſignifications of a doubtful word, or ſentence, as the term *King*, ſignifies a ruler, and likewiſe a man's ſirname:—a *Bull*, ſignifies a beaſt, and an out of the way phraſe.

Q. What is the diviſion of a thing?

A. A diſtribution of the whole, into all its parts.

Q. How many fold is a whole?

A. Two: a whole univerſal and a whole integrant.

Q. What is an whole univerſal?

A. That term which ſignifies an idea, which if it be a genus, its parts are a ſpecies, and if it be the ſpecies infima, its parts are individuals.

Q. Why are the parts of the genus, called ſubjectives?

A. Becauſe, thoſe parts may be ſubjects, which are contained under the whole, and, of which the whole may be prædicated.

Q. What is an integrant whole?

A. All the parts which go to make up any ſingle individual, as the parts of a kingdom are provinces.

Q. What are the laws of diviſion?

A. Two: firſt, it ought to be adequate, that is, all the parts ſhould make up the whole, andneither more nor leſs. Secondly, the parts ought to be diſtinct, ſo that one may not be taken for the other; thus, *a ſurface exiſts on a Body, and Lines on the Surface, yet, Lines Surface, and Body are diſtinct things.*

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# PART THE THIRD.

## CHAP. I.

Q. What is the third operation of the mind?

A. Diſcourſe, or reaſoning.

Q. What is reaſoning?

A. That operation of the mind, by means of which, we infer the truth of one judgment from another, or, from many others.

Q. What are the the moſt general logical arguments, by which, we infer the truth, of one judgment, or propoſition, from another, or from many?

A. The principal are, ſimple, categorical ſyllogiſms, hypothetic ſyllogiſms, disjunctive ſyllogiſms, dilemma, ſorites, enthymemes, induction, and example.

## CHAP II.

### *Of Simple Syllogiſms.*

Q. What is a ſimple or categorical ſyllogiſm?

A. An argument, which conſiſts, of three ſimple propoſitions.

Q. How comes a ſimple ſyllogiſm, of this kind to be formed ?

A. From ignorance, doubt, or a propenſity to argumentation ; for, when the two terms of a propoſition do not ſeem to all parties, to agree, or diſagree, from their immediate agreement, or diſagraement, not being perceived, they muſt have recourſe to a third term.

Q. What uſe is made of this third term ?

A. It is compared, ſeparately, with each of the other two, and then, thoſe two themſelves are compared with each other.

Q. Why do three propoſitions reſult from thoſe three terms ?

A. Becauſe, in the firſt place, the above mentioned middle term is compared with the prædicate of the propoſition propoſed ; in the ſecond place, the middle term is compared with its ſubject ; and in the laſt place, the two terms of the propoſed propoſition, are compared with each other.

Q. How are thoſe three terms denominated ?

A. The Major, Minor, and middle terms.

Q. What is the major term ?

A. It is the prædicate of the propoſition propoſed, and called the major term, becauſe in every affirmative propoſition, the prædicate (as above mentioned) has a greater extenſion than the ſubject, and, in no ſort of propoſitions is it known to have leſs.

Q. What is the minor term ?

A. The ſubject of the propoſition propoſed, ſo called, becauſe, in every affirmative propoſition, the ſubject has leſs extenſion, than the prædicate, and, in no ſort of propoſitions a greater extent.

Q. What is the middle term ?

A. The auxiliary term, brought to ſhew the agreement, or diſagreement of the two laſt mentioned terms, ſo called, becauſe it has a middle or mean extenſion, between the major nnd minor terms, and is called the argument, or argumental term, becauſe it proves the agreement, or diſagreement of the major and minor terms.

Q. By what common name are the major and minor terms called ?

A. They are called extremes, becauſe they are placed with reſpect to their extenſion on either ſide of the middle term.

Q. Which are the three propoſitions compoſing a ſyllogiſm ?

A. The major propoſition, made up of the the major and middle terms ; the minor propoſition made up of the minor and middle terms, and the concluſion made up of the major and minor terms. The major and minor propoſitions are called premiſes.

Q. How differ the queſtion propoſed, and the concluſion ?

A. They are the ſame with this difference, that the queſtion remains to be proved, which is done, by the aſſiſtance of the middle term, but, the concluſion is proved. The following is an example of the above proceſs. Let the queſtion propoſed be, *every man has ſenſation*. *Man* is the ſubject, and of courſe, the minor term. *Having ſenſation,* is the prædicate, and, therefore, the major term. If the agreement, or diſagreement, of thoſe two terms, is not immediately perceived, you bring in the middle term, *Animal* ; and, compare it, firſt, with the major, as, every *Animal has ſenſation*, this is the major propoſition. You next compare it with the minor term, as *every Man is an Animal*, which is the minor propoſition. And, laſtly, you compare the major and minor terms together, and form the concluſion, as, *every Man has ſenſation*, here, it is evident, that the queſtion, and concluſion are the ſame.

## CHAP. III.

### *Of the Matter of a Syllogiſm, and the Figures.*

Q. What is meant by the matter of a ſyllogiſm ?

A. That, of which it is compoſed, or made up.

Q. How many-fold is the matter of a ſyllogiſm ?

A. Two-fold, the proximate, and remote.

Q. What is the proximate matter?

A. The three propoſitions, becauſe, the ſyllogiſm is immediately formed from them.

Q. What is the remote matter?

A. The three terms, becauſe, from them are formed the three propoſitions.

Q. What is the figure of a ſyllogiſm?

A. The proper diſpoſition of the middle term, in the premiſes.

Q. How many figures are there?

A. Four, becauſe, the middle term can be diſpoſed, in four different ways.

Q. What is firſt figure?

A. Where the middle term, is the ſubject of the major, and prædicate of the minor; as, *every Animal has ſenſation. Every Man is an Animal,* therefore *every Man has ſenſation.*

Q. What is the ſecond figure?

A. Where the middle term is the prædicate of both premiſes, as, *every Man is an Animal, no ſtone is an Animal;* therefore *no ſtone is a man.*

Q. What is the third figure?

A. When the middle term is the ſubject of both premiſes, as, *every Animal has ſenſation, every animal has motion,* therefore, *ſomething that has motion, has ſenſation.*

Q. What is the fourth figure?

A. Where the middle term is the prædicate of the major, and ſubject of the minor, as, *every Man is an Animal, every Animal* *has ſenſation* ; therefore, *ſomething that has ſenſation is a Man*.

## CHAP. IV.

### *Of the Axioms, and general rules of Syllogiſms.*

Q. What is an axiom?

A. A ſelf-evident propoſition, the truth of which, can be immediately ſeen.

Q. On how many axioms, do the rules of ſyllogiſms depend?

A. On the three following; firſt; when two things agree with a third, they agree amongſt themſelves:—Secondly, when one of the two agrees with a third, and the other does not, they do not agree among themſelves: Thirdly, when neither of them agrees with the third, they may, or not, agree among each other.

Q. What is to be done, when neither of them agrees with the third?

A. Another middle term, or third, muſt be found, with which, one of the extremes (at leaſt) muſt agree.

Q. How many-fold are the rules of ſyllogiſms?

A. Two-fold;—general rules, which are ſeven, and have room in every figure, and ſpecial rules which are peculiar to each figure.

Q. What is the firſt general rule?

A. The middle term cannot be taken twice, particularly, but, muſt be once, at leaſt, univerſal;

verſal; for if it was taken twice particularly, they would be two different parts of the middle term, and, therefore, each of the extremes would be compared with different parts of the middle term, and, therefore, it could not be perceived, whether the extremes agreed with each other or no, as they are not compared with the ſame third, but, with different parts of it; as, *every Man is an Animal; every horſe is an Animal*; it will not follow from this, *that every horſe is a Man*, becauſe *horſe* and *Man* are different parts of animal.

Q. What is the ſecond general rule?

A. The extremes ought not to be more univerſal in the concluſion, than in the premiſes, for this would be an argument, from a particular to an univerſal; for, when only a part of a term is mentioned in the premiſes, it would be abſurd to mention the whole in the concluſion. As for example;—*every man has ſenſation, ſomething that has ſenſation, is an animal*; therefore, it would be abſurd to conclude, that, *every animal is a Man. for animal* is particular in the premiſes, and therefore, could not be univerſal in the concluſion.

Q. What is the third generrl rule?

A. That there muſt be one more general term, at leaſt, in the premiſes, than in the concluſion; for, firſt the middle term is once univerſal in the premiſes, by the firſt general rule and never enters the concluſion: And, ſecondly, there is no term more univerſal in the concluſion, conlcuſion, than in the premiſes, by the ſecond general rule.

Q. What is the fourth general rule ?

A. From two negative premiſes, no concluſion will follow, for in theſe laſt, neither of the extremes agrees with the middle term, therefore, we cannot know whether they agree or diſagree.
as, for example :—*no man is a horſe, no horſe has reaſon* ; we cannot conclude from hence, whether, *a Man has reaſon or not.*

Q. What is the fifth general rule ?

A. That from two affirmative premiſes, a negative concluſion will not follow, for, in this caſe, both the extremes agree, with the middle term, and of courſe they muſt agree with each other in the concluſion, as, *every Animal has ſenſation, every Man is an Animal,* therefore, *every Man has ſenſation.*

Q. What is the ſixth general rule ?

A. The concluſion follows the weaker part, that is, if one of the premiſes be negative, the concluſion will be negative ; and if one of them is particular, the concluſion will be particular ; for a negative propoſition is weaker, than an affirmative, and a particular weaker than an univerſal.

Q, Why, if one of the premiſes is negative will the concluſion be negative ?

Q. Becauſe, in this caſe, one of the extremes agrees with the middle term, and the other diſagrees with it ; therefore, the extremes will diſagree with each other, in the concluſion, and, of courſe, render it negative: as for example, *every man is an animal, no ſtone is an animal,* and the concluſion is, that *no ſtone is a man*

Q. Why, if one of the premiſes be particular, will the concluſion be particular?

A. In this, two caſes occur, firſt, when both the premiſes are affirmative, and one of them particular, then, there will be three particular terms in the premiſes, viz. the two prædicates, and the ſubject of the particular, therefore, there will be only one univerſal term, viz. the ſubject, of the univerſal propoſition, and as there is but one univerſal term, in the premiſes, there will be none, in the concluſion, by the third general rule, and of courſe, it muſt be particular, as, *every man is an animal, ſome man is juſt*: therefore, *ſomething that is juſt is an animal*. Secondly, if one of the premiſes is affirmative, and one of them negative, they will be either, an univerſal negative, and a particular affirmative, or, an univerſal affirmative, and a particular negative, in either caſe, there will be, but two univerſal terms, in the premiſes, viz. the ſubject of the univerſal, and the prædicate of the negative, and there can be but one univerſal term, in the concluſion, but as the concluſion muſt be negative, that univerſal term muſt be its prædicate, therefore, its ſubject is particular, and of courſe, the concluſion itſelf, is particular.

Q. What is the ſeventh general rule?

A. That, from two particular premiſes, no concluſion will follow, for if they are both affirmatives, there will be no univerſal term, in them, therefore, the middle term will be twice particular, contrary to the firſt general rule, and, if one is affirmative, and the other negative, there will be but one univerſal term in the premiſes, viz. the prædicate of the negative: and, if a concluſion followed, it muſt be negative, by the ſixth general rule, and its prædicate, muſt of courſe, be univerſal, therefore, there would be, as many univerſal terms, in the concluſion, as in the premiſes, contrary to the third general rule.

Q. Are all thoſe rules deduced, from the three axioms above?

A. The ſecond general rule is derived from one of the rules, in the ſecond part, where, it was mentioned, that an argument could not hold good, from a particular to an univerſal, the ſecond part of the ſixth general rule, is deduced, from the third general rule, as, likewiſe the ſecond part of the ſeventh, and the firſt part of the ſeventh, from the firſt general rule. The third general rule is deduced from the firſt and ſecond general rules.

## CHAP V.

### *Of the ſpecial rules of Syllogiſms.*

Q. How many ſpecial rules belong to the firſt figure?

A. Two: firſt, the minor ought to be affirmative, for, if it was negative, the major ſhould be affirmative, (ſince, both the premiſes cannot be negative) by the fourth general rule, and its prædicate, viz. the major term, muſt, of courſe, be particular, and the concluſion, (by the ſixth general rule) will be negative; and its prædicate, muſt then be univerſal, which is the major term, therefore, the major term would be univerſal, in the concluſion, and particular in the premiſes, contrary to the ſecond general rule.

Q. What is the ſecond ſpecial rule of the firſt figure?

A. The major muſt be univerſal, for ſince, by the foregoing rule, the minor is affirmative, the middle term, which is its prædicate, muſt be particular; therefore, the middle term muſt be univerſal, in the major propoſition, (for it could not be twice particular, by the firſt general rule), where it is the ſubject, and, of courſe, renders the major univerſal.

Q. How many ſpecial rules belong to the ſecond figure?

A. Two: firſt, one of the premiſes, and of courſe, the concluſion is negative, for, ſince, in the ſecond figure, the middle term, is the prædicate of both premiſes, if they were both affirmatives, the middle term (as being twice the prædicate, of affirmative propoſition) would be twice particular, contrary, to the firſt general

ral rule, and as one of the premiſes is negative, the concluſion will be a negative.

A. What is the ſecond ſpecial rule, of the ſecond figure?

A. The major muſt be univerſal, for, ſince, by the foregoing, the concluſion is negative, its prædicate, viz. the major term is univerſal, therefore, by the ſecond general rule, is muſt be univerſal, in the major propoſition, where it is the ſubject, and, of courſe, renders the major univerſal.

Q. How many ſpecial rules in the third figure?

A. Two: firſt, the minor is affirmative, for, if it was negative, the major ſhould be affirmative (by the fourth general rule) and its prædicate, which is the minor term, of courſe, particular, and, ſince a negative concluſion ſhould follow, the major term, its prædicate ſhould be univerſal, therefore, the major term would be univerſal, in the concluſion, and, particular, in the major premiſe, contrary, to the third general rule.

Q. What is the ſecond ſpecial rule of the third figure?

A. The concluſion muſt be particular, for, ſince, by the foregoing, the minor is affirmative, the minor term, its prædicate, is particular, therefore, it muſt be particular, in the concluſion, by the third general rule, where it is the ſubject, and of courſe, renders the concluſion particular.

Q. How many ſpecial rules, in the fourth figure?

A. Three: firſt, if the major propoſition be affirmative, the minor will be univerſal, for, if the major is affirmative, the middle term, (its prædicate) is particular, but, the middle, muſt be once univerſal, and, as it is particular in the major, it muſt be univerſal, in the minor, where it is, the ſubject, and of courſe, will render it univerſal.

Q. What is the ſecond ſpecial rule, in the fourth figure?

A. If the minor be affirmative, the concluſion will be particular; for, ſince the minor term is the prædicate, of the minor propoſition, if the minor propoſition is affirmative, its prædicate, the minor term, will be particular, therefore, it will be particular in the concluſion (by the third general rule) where it is the ſubject, and of courſe, renders the concluſion itſelf particular.

Q. What is the third ſpecial rule of the fourth figure?

A. If any of the premiſes be negative, the major will be univerſal, for, if one of the premiſes be negative, the concluſion will be negative by the ſixth general rule, and its prædicate, viz. the major term will be univerſal, in the major propoſition by the ſecond general rule) where, it is the ſubject, and of courſe, renders the major propoſition univerſal.

## CHAP. VI.

### *Some further particulars relative to the ſpecial Rules and Figures.*

Q. Were the four figures always admitted?

A. No; *Ariſtotle* admitted only the three firſt; but, *Galen* introduced the fourth.

Q. What were *Ariſtotle's* objections to the fourth figure?

A. Firſt, becauſe, it was directly oppoſite to the firſt figure, for ſince the middle term is prædicated, of the major term it might ſeem to have greater extenſion, than the major; and again, ſince the minor term is prædicated of the middle, it might ſeem to have greater extenſion than the middle; therefore a Fortiori, the minor term might ſeem to have greater extenſion than the major. Second, the ſpecial rules of the fourth figure, are conditional, but the rules of the three firſt are categorical.

Q. How are *Ariſtotle's* objections removed?

A. The firſt is removed, becauſe the concluſion in the fourth figure, is either particular, or negative, but never an univerſal affirmative, and therefore only a part of the more extenſive term, is ſubjected to the leſs extenſive term, in the concluſion, as, *every Man is an Animal, every Animal has ſenſation*, therefore ſomething that has ſenſation is a *Man*, or they are totally denied of each other, as, *no ſtone is an Animal, ſome animal is a Man*; therefore, *no Man is a ſtone*. As to the ſecond objection, it cannot take place, ſince the premiſes in the fourth figure, and the concluſion drawn from them are as categorical as thoſe of any other figure; for thoſe reaſons *Galen* admitted the fourth figure, as likewiſe that the fourth, as well as the ſecond, and third, were reducible, to the firſt figure, and by this means, the neceſſity of conſequence equally perceptible in it; beſides, ſince a different diſpoſition of the middle term conſtitutes a figure, the fourth ſhould be admitted, as diſpoſing the middle term in a different manner from any of the other three figures:—and laſtly, becauſe there are ſome ſyllogiſms that can be expreſsed with leſs complexedneſs in the fourth figure than in any other.

Q. Why is the firſt figure preferable to, and more perfect than any of the reſt?

A. Firſt, becauſe the neceſſity of conſequence is more clearly perceived, in the firſt figure than in any of the others: and ſecondly, becauſe, it is the only figure that admits of an univerſal affirmative concluſion.

Q. What is meant by the neceſſity of conſequence?

A. When, from the diſpoſition of the middle term, in the premiſes, we can clearly perceive, which of the extremes ought to be prædicated of the other, in the concluſion.

Q. Why is this more perceptible in the firſt, than in the other figures?

A. Becauſe, in the firſt figure, the major term, as being the prædicate, of the major propoſition, ſeems to contain the whole middle term, which is an univerſal ſubject, under it, and the middle, as being the prædicate of the minor propoſition, ſeems to contain the minor term, (which is the ſubject of the minor propoſition) under it, therefore, the major, muſt contain the minor term, under it in the concluſion, as, *every animal has ſenſation*; *every man is an animal*, therefore, *every man has ſenſation.*

*N. B. This can be perceived only in affirmative propoſitions.*

Q. Why is not this neceſſity of conſequence perceptible in the ſecond figure?

A. Becauſe, in the ſecond figure, the middle term is the prædicate of both premiſes, and therefore, ſeems to have more extenſion, than either of the extremes, which are the ſubjects; but, it cannot from this poſition be inferred, which, of the extremes themſelves, ought to be prædicated, of the other, as, *every man is an animal*, *no ſtone is an animal*, therefore, *no ſtone is a man*, or, converſely, *no man is a ſtone*.

Q. Why is it not perceptible in the third figure?

A. Becauſe, here the middle term is the ſubject of both premiſes; and, conſequently, ſeems to have leſs extenſion, than, either of the extremes, therefore, from this poſition, it cannot be inferred, which of the extremes ought to be prædicated, of the other, as, *every man is rational, every man is riſible,* therefore *ſomething that is riſible is rational,* or *converſely.*

Q. Why is it not perceptible in the fourth figure?

A. Becauſe, the fourth figure is directly contrary to the firſt, for which ſee *Ariſtotle*'s objections in the beginning of this chapter.

Q. How does it appear, that the firſt figure only admits of an univerſal affirmative concluſion?

A. Becauſe, firſt, that the concluſion ſhould be affirmative, it is neceſſary, that both the premiſes ſhould be affirmative. by the fifth general rule) and, of courſe, their prædicates be particular.—Second, that the concluſion ſhould be univerſal, it is neceſſary, that both the premiſes ſhould be univerſal (by the ſixth general rule) and that the minor term ſhould be univerſal, in the premiſes (by the ſecond general rule) therefore, the minor term muſt be the ſubject of the minor propoſition, and the middle term its prædicate, and, of courſe, particular, (as being the prædicate of an affirmative propoſition).—But the middle term muſt be once univerſal, therefore, it muſt be the ſubject, of the major, for, if it was the prædicate, the middle term would be twice particular, therefore, it appears that to draw an univerſal affirmative concluſion, the middle term muſt be the ſubject of the major, and prædicate, of the minor, which only happens, in the firſt figure.

## CHAP. VII.

### *Of the Modes of Syllogiſms.*

Q. What is the mode of a ſyllogiſm?

A. The proper determination of the propoſitions, according, to their quantity and quality.

Q. How many modes are there?

A. Sixty-four in all, for the major propoſition of a ſyllogiſm may be either, A, E, I, O, and each major may contain under it, a fourfold minor, A, E, I, O, which make ſixteen, and each minor may contain under it, a fourfold concluſion, A, E, I, O, which make ſixty-four concluſions, as in the following ſcheme.

(The firſt ſcheme to be placed oppoſite page 70.)

# SCHE

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## A E

## A E I O A E I O A

| AEIO | AEIO | AEIO | AEIO | AEIO | AEIO | AEIO | AEIO | A |
|---|---|---|---|---|---|---|---|---|
| Excluded by the 5th general rule. | Is uſeleſs. | Excluded by the 5th general rule. | Admitted in the 2d figure. | Admitted in the 3d and 4th figures. | Excluded by the 4th general rule. | Admitted in all the figures. | Excluded by the 4th general rule. | Excluded by the 4th general rule. |
| Retained in the 3d and 4th figures. | Excluded by the 6th general rule. | Admitted in the 1ſt and 3d figures. | Excluded by the 6th general rule. | Excluded by the 5th general rule. | Excluded by the ſame. | Excluded by the 6th general rule. | Excluded by the ſame | Excluded by the 6th general rule. |
| Excluded by the 5th general rule. | Admitted in the 2d and 4th figures. | Excluded by the 5th and 6th general rules. | Excluded by the ſame. | Admitted in the 1ſt and 2d figures. | Excluded by the ſame. | Excluded by the ſame. | Excluded by the ſame. | |
| Retained in the firſt figure. | Excluded by the 6th general rule | Excluded by the 6th general rule. | Excluded by the ſame. | Excluded by the 6th general rule. | Excluded by the ſame. | Excluded by the ſame. | Excluded by the ſame. | |

BRITISH 15 OC 61 MUSEUM

EMEI.

(…aced oppoſite Page 70.)

I O

A E I O A E I O

A E I O

Excluded by the 5th general rule,
Admitted in the 3d and 4th figures,
Excluded by the 4th general rule,
Excluded by the 6th general rule.

A E I O

Excluded by the 2d general rule.
Excluded by the 6th general rule,
Excluded by the ſame.
Excluded by the ſame;

A E I O

Excluded by the 7th general rule.
Excluded by the ſame.
Excluded by the 5th and 7th general rules,
Excluded by the 7th general rule.

A E I O

Excluded by the 7th general rule.
Excluded by the ſame.
Excluded by the ſame.
Excluded by the ſame.

A E I O

Admitted in the 3d figure.
Excluded by the 6th general rule,
Excluded by the ſame.,
Excluded by the ſame,

A E I O

Excluded by the 4th general rule,
Excluded by the ſame.
Excluded by the ſame,
Excluded by the ſame.

A E I O

Excluded by the 7th general rule,
Excluded by the ſame.
Excluded by the ſame
Excluded by the ſame

A E I O

Excluded by the 4th and 7th general rules.
Excluded by the ſame.
Excluded by the ſame.
Excluded by the ſame.

BRITISH MUSEUM 15 OC 61

# SCHEME II.

(To be placed oppoſite page 71.)

## EXAMPLES of the different Concluding Modes.

### Firſt Figure.

BARBARA.
*Every animal has life,*
*Every man is an animal,*
*Therefore, every man has life.*

CELARENT,
*No animal is a ſtone,*
*Every man is an animal,*
*Therefore, no man is a ſtone.*

DARII,
*Every animal has ſenſation,*
*Some man is an animal,*
*Therefore, ſome man has ſenſation.*

FERIO,
*No animal is a ſtone,*
*Some man is an animal,*
*Therefore, ſome man is not a ſtone.*

### Second Figure.

CESARE,
*No ſtone is an animal,*
*Every man is animal,*
*Therefore, no man is a ſtone.*

CAMESTRES,
*Every man is an animal,*
*No ſtone is an animal,*
*Therefore, no ſtone is a man.*

FESTINO,
*No ſtone is an animal,*
*Some man is an animal,*
*Therefore, ſome man is not a ſtone.*

BAROKO,
*Every man has perception,*
*Some bodies have not perception,*
*Therefore, ſome bodies are not man.*

### Third Figure.

DERAPTI,
*Every animal has ſenſation,*
*Every animal has motion,*
*Therefore, ſomething that moves, has ſenſation.*

FELAPTON,
*No animal is a ſtone,*
*Every animal has perception,*
*Therefore, ſomething that has perception is not a ſtone.*

DATISI,
*Every animal has ſenſation,*
*Some animal is a man,*
*Therefore, ſome man has ſenſation.*

DISAMIS,
*Some animal is a man,*
*Every animal has perception,*
*Therefore, ſomething that has perception, is man.*

BOKARDO,
*Some animal is not man,*
*Every animal has ſenſation,*
*Therefore, ſomething that has ſenſation is not man.*

FERISON,
*No animal is a ſtone,*
*Some animal has ſenſation,*
*Therefore, ſomething that has ſenſation is not a ſtone.*

### Fourth Figure.

BRAMANTIP,
*Every man is an animal,*
*Every animal has ſenſation,*
*Therefore, ſomething that has ſenſation is a man.*

CAMENES,
*Every man is an animal,*
*No animal is a ſtone,*
*Therefore, no ſtone is a man.*

DIMARES,
*Some body is an animal,*
*Every animal has motion,*
*Therefore, ſomething that moves is a body.*

FESAPO,
*No ſtone is an animal,*
*Every animal has motion,*
*Therefore, ſomething that has motion is not a ſtone.*

FRESISON.
*No ſtone is an animal,*
*Some animal is a man,*
*Therefore, ſome man is not a ſtone.*

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Q. How are thoſe concluſive modes, expreſſed, ſo as to ſhew at one view the quantity and quality of the different propoſitions ?

A. By certain words which are generally made uſe of by Logicians, of which four belong to the firſt figure : viz. *Barbara, Celarent, Darii, Ferio.* Four to the ſecond, as, *Ceſare, Cameſtres, Feſtino, Baroko.* Six to the third, as, *Darapti, Felapton, Datiſi, Diſamis, Bokardo, Feriſon* ; and five to the fourth figure, as, *Bramantip, Camenes, Dimaris, Feſapo, Freſiſon.* The vowels in thoſe, expreſs the quantity and quality of the different propoſitions. The further uſe of them will be ſhewn in the next chapter.

## CHAP. VIII.

### *Of Reduction.*

Q. What is Reduction ?

A. The changing of an imperfect ſyllogiſm into a perfect one.

Q. What is meant by an imperfect ſyllogiſm ?

A. All ſyllogiſms (except thoſe in the firſt figure) are imperfect, becauſe the neceſſity of conſequence mentioned in chapter vi. is not perceived in them; for the reaſons there aſſigned.

Q. What is the advantage of reducing them to the firſt figure ?

A. The truth of them is immediately

ſhewn, becauſe the concluſion that follows after the reduction, is either the ſame as that before reduction, or one which infers it.

Q. What operations are made uſe of in reduction?

A. Tranſpoſition, converſion, ſubalternation, and oppoſition.

Q. How many-fold is reduction?

A. Two-fold, viz. oſtenſive, and per impoſſibile.

Q. What is oſtenſive reduction?

A. When from the premiſes of the reducend or imperfect ſyllogiſm tranſpoſed, or converted, a concluſion is deduced, in the firſt figure, which is the ſame as the concluſion of the reducend, or one that infers it. Thus, in reducing the mode *Camenes*, of the fourth figure *every Man is an Animal, no Animal is a ſtone*, therefore, *no ſtone is a Man*: you tranſpoſe the premiſes thus; *no Animal is a ſtone, every Man is an Animal*, therefore, *no Man is a ſtone.* Here, by tranſpoſing the premiſes, and converting the concluſion ſimply, it is found in the mode *Celarent*, of the firſt figure. Here it is to be obſerved, that whenever it is neceſſary to tranſpoſe the premiſes, the concluſion likewiſe muſt be changed; for as by the tanſpoſition of the premiſes the extremes change places, viz. that which was the major term, becoming the minor, and, vice verſa; they muſt likewiſe change places in the concluſion, that which was the prædicate of the concluſion,in the reducend, becomes theſubject of the concluſion of the reduct, and *vice verſa*: however, this cannot be properly called converſion.

Q. What is the further uſe of the words, mentioned in the laſt chapter?

A. The initial letter ſhews, to what mode of the firſt figure any imperfect mode is to be reduced;—thus, *Ceſari* is reduced to *Celarent*, *Darapti* to *Darii*, &c. &c. Whenever the letter S occurs, it denotes, that the propoſition, which the preceding vowel ſignifies, is to be converted ſimply; thus, in reducing *Ceſari* to *Celarent*, the major is to be ſimply converted: when the letter P, occurs, the propoſition, which the preceding vowel denotes, is to be converted per accidens, as, in reducing *Derapti* to *Darii*, the minor is to be converted per accidens: when the letter M, occurs, the premiſes are to be tranſpoſed, as in reducing *Cameſtres* to *Celarent*, and laſtly, when the letter K, occurs, it denotes, that, the contradictory of the concluſion, of the reducend, is to be put in place, of the propoſition, which the preceding vowel ſignifies, thus, in reducing *Baroko*, to *Barbara*, the contradictory of the concluſion, is to be put in the place of the minor propoſition, this laſt more properly belongs to the following chapter.

## CHAP. IX.

### *Of Reduction per impoſſibile.*

Q. What is meant by reduction per impoſſib

A. When, from one of the premiſes of the reducend, and the contradictory of the concluſion of the reducend, put in place of the other premiſe, a concluſion is deduced, which is manifeſtly falſe.

Q. How far does this ſpecies of reduction prove the truth, of the concluſion of the reducend?

A. As the concluſion of the reduct is manifeſtly falſe, one of the premiſes of the reduct, muſt be alſo falſe, (ſince a falſehood in the concluſion muſt always follow, from a falſehood in the premiſes) but, as one of the premiſes of the reducend is admitted, as true, in the reduct, the other premiſe of the reduct, viz. the contradictory of the concluſion of the reducend, muſt be the falſe premiſe; therefore, the concluſion of the reducend, muſt have been true, ſince, of contradictories, one muſt be always true, and the other falſe, (ſee chap. VIII. part 2d).—as an example, in the mode *Barcko*, of the ſecond figure, *every man has perception*: *ſomebody has not perception*, therefore, *ſomebody is not man*: here ſubſtitute the contradictory of the concluſion, viz. *every body is a man*, for the minor propoſition, and the ſyllogiſm runs thus, in the mode, *Barbara* of the firſt figure; *every man has perception*, *every body is a man*; therefore, *every body has perception*, this concluſion is evidently falſe.

Q. Why is this ſpecies of reduction uſed, ſince, oſtenſive reduction proves the truth, or falſehood directly.

A. It is never uſed, except, in caſes of neceſſity, where, oſtenſive reduction is not admiſſible, as, whenever a particular negative occurs, in the premiſes of the reducend, for a particular negative is not admiſſible in the firſt figure, ſince, its minor muſt be affirmative, and its major univerſal.—Further, it is to be obſerved, that every mode of all the different figures, may be reduced, to the firſt figure, per impoſſibile, but oſtenſive reduction is preferable.

## CHAP. X.

### *Of Hypothetic Syllogiſms.*

Q. What is an Hypothetic ſyllogiſm?

A. A ſyllogiſm, whoſe major or minor, or both, are hypothetic propoſitions.

Q. When the major only is hypothetic, what will the concluſion be?

A. The concluſion will be abſolute, becauſe the minor removes the condition, as, E, G, Major, *if God is juſt, the wicked will be puniſhed*: Minor, *but God is juſt*, Concluſion, therefore, *the wicked will be puniſhed*.

Q. If the minor propoſition be hypothetic what will the concluſion be?

The concluſion will be hypothetic, becauſe, no propoſition intervenes, to remove the condition, as, major, *if a man is pious, he will be rewarded in a future ſtate*. Minor, *and if he will be rewarded in a future ſtate, he will* *enter the kingdom of Heaven.* Concluſion, therefore, *if a man is pious he will enter the kingdom of heaven.*

Q. What is the uſe of ſyllogiſms, whoſe concluſions are hypothetic?

A. The hypothetic concluſion, may be made the major, of another ſyllogiſm, and an abſolute concluſion drawn from thence.

Q. When the major only is hypothetic how many ways of concluding are there?

A. Two: firſt, from the poſition of the antecedent, to the poſition of the conſequent, as, *if Chriſt was the Son of God, he has redeemed mankind*; but, *Chriſt was the Son of God,* therefore, *he redeemed mankind.* Secondly, from the remotion of the conſequent to the remotion of the antecedent, as, *if the wicked are rewarded, good works are fruitleſs, but good works are not fruitleſs,* therefore, *the wicked are not rewarded.*

Q. On what does the truth of the concluſion in thoſe caſes depend?

A. On this, that if the antecedent be true, the conſequent (if it follows from it) will be likewiſe true, as, in the firſt example, and, if the conſequent be not true, neither will the antecedent (from whence it follows) be true, in this caſe, the contradictory, of the conſequent is to be aſſumed, becauſe, the contrary of it, would not make a true ſyllogiſm, as, *if every animal is rational, every brute is rational, but no brute is rational*; therefore, *no man is* *rational*, but it ought to be thus: Major, *if every animal is rational every brute is rational.* Minor, *but ſome brutes are not rational*, therefore, *ſome animals are not rational.*

Q. What are the falſe modes of concluding?

A. Two: firſt, from the removing of the antecedent, to the removing of the conſequent as, *if a man is rich, he is to be eſteemed*, but, *a man is not rich*, therefore, *he is not to be eſteemed.* Second, from the poſition of the conſequent, to the poſition of the antecedent, as, *if a man is rich he is to be eſteemed*, but, *a man is to be eſteemed*, therefore, *he is rich.*

Q. How is the falſehood of thoſe proved?

A. By reducing them to categorical ſyllogiſms, which is to be done, by rejecting the term, that is common, to both, the antecedent and conſequent, together, with the conditional particle, thus, they will be found contrary, to the ſpecial rules of ſyllogiſms, as, *being rich, is to be eſteemed, a man is not rich, therefore, a man is not to be eſteemed*: here, the minor is negative, contrary, to the firſt ſpecial rule, of the firſt figure, the minor ſhould be affirmative, and again, in the ſecond example, as, *being rich is to be eſteemed*, therefore, *being a man is being rich*, this concluſion, is nonſenſical, and contrary, to the firſt ſpecial rule of the ſecond figure, as, one of the premiſes, and of courſe, the concluſion ſhould be negative.

# CHAP. XI.

## *Of Disjunctive Syllogiſms.*

Q. What is a disjunctive ſyllogiſm ?

A. That whoſe major is a disjunctive propoſition.

Q. How many modes of concluding in a disjunctive ſyllogiſm ?

A. Two : Firſt, from the poſition of one part, to the removing of the other, as, *the Earth is either in motion or at reſt, but it is in motion*, therefore, *it is not at reſt*. Secondly, from the removing of one, to the poſition of the other, as, *it is night or day*, but, *it is not night*, therefore, *it is day*. Here, it is to be remarked, that the major of the disjunctive ſyllogiſm, may contain ſeveral parts, and in this caſe, there is the poſition of one part in the minor, to the removing of all the other parts in the concluſion, or the removing all the parts in the minor, to the poſition of of one, n the concluſion ; as, *it is either Spring, Summer, Autumn, or Winter*, but, *it is Spring*, therefore, *it is neither Summer, Autumn, nor Winter* ; or thus, *but it is neither Summer, Autumn, nor Winter*, therefore, *it is Spring*.

Q. What is a disjunctive ſyllogiſm, from the enumeration of the parts ?

A. A Syllogiſm, whoſe major propoſition, is an hypothetic, whoſe antecedent, is abſolute, and connſequent, a disjunctive propoſition ; as, *if there is a diſeaſe to be feared, either an acute, or a tedious one is to be feared.*

Q. What is the uſe of this ſpecies of ſyllogiſm ?

A. It is principally uſed in the ſpecies of argument to be treated of in the next chapter.

## CHAP. XII.

### *Of Dilemma.*

Q. What is a Dilemma?

A. An argument conſiſting of a disjunctive ſyllogiſm from the enumeration of the parts, and as many ſimple propoſitions as there are parts.

Q. What is the uſe of a dilemma ?

A. To prove either the abſurdity, or falſehood of ſome propoſition.

Q. How is this to be done ?

A. By connecting a propoſition with each of the parts of the conſequent, which is to contain a middle term, which is to ſhew the falſehood, or abſurdity of that part, which falſehood, or abſurdity is inferred in the concluſion : as in the example in the laſt chapter. *If a diſeaſe is to be feared, an acute, or a tedious diſeaſe is to be feared* ; but, *an acute, diſeaſe is not to be feared*, for *an acute diſeaſe is of a ſhort duration, and a tedious diſeaſe is not to be feared, for a tedious diſeaſe is ſlight*, therefore, a *diſeaſe is not to be feared.*

Q. In what ſpecies of reaſoning, is a dilemma moſt frequently to be uſed?

A. It can be uſed in any ſpecies of reaſoning, but frequently in mathematical reaſoning, for inſtance, where any one line, or angle, by the aſſiſtance of intermediate proofs, is ſhewn, not to be leſs, or greater than another, therefore it muſt be equal.

Q. Is this ſpecies of argumentation confined to two parts, in the conſequent of the major?

A. It may contain an indefinite number of parts, which may be removed by the aſſiſtance of other propoſitions, as above mentioned, and then it may be called a *Trilemma*, a *Teſſeralemma* &c. as in the following example: If *the form of government be bad, it is owing either to the ignorance, avaritiouſneſs, ambition, or negligence, of the legiſlative body.* Here, the conſequent contains four parts, and might contain more, which may be removed in the minor as above.

Q. How many ways may a dilemma be deficient?

A. Three ways:—Firſt, when all the parts contained in the antecedent are not enumerated in the conſequent: Secondly, when the ſimple propoſitions that are aſſumed to remove the parts, do not evidently remove them:—And thirdly, when it can be retorted, for an argument which proves contradictions, proves nothing, example of the firſt, in the caſe of the *Miſſogyniſt, if you are to marry, you muſt* *marry either a beautiful or a deformed woman, if ſhe is beautiful, ſhe will prove unchaſte, and, if deformed, ſhe will be loathſome,* therefore, *you are not to marry*. But this fails, as all the parts are not enumerated in the major, for a *woman may be neither beautiful nor deformed*. It fails likewiſe in the ſecond, for, *her being beautiful*, is not contradictory to *her being chaſte*, *nor her being deformed*, contradictory to *her being agreeable*. An example of the third kind may be ſeen by the famous controverſy between *Protogaras and Eualthus*, the former agreed to teach the latter, the art of pleading, on condition that he ſhould pay him a certain ſum in hand, and the remainder when the pupil ſhould gain the firſt cauſe he was engaged in, which being agreed to by the pupil, the maſter inſtantly commenced a ſuit againſt him for the remainder, ſaying, that if he (the maſter) gained the ſuit, the pupil ſhould pay him according to the deciſion of the judges; but if the judges gave it againſt him, he the pupil ſhould pay, according to agreement: but, the pupil retorted, by ſaying, that if he (the pupil) had gained the ſuit, he had no right to pay, according to the deciſion of the judges; and that if he loſt the ſuit he ſhould pay nothing according to agreement.

# CHAP. XIII.

## *Of the Sorites.*

Q. What is a ſorites?

A. A ſpecies of an argument, conſiſting, of many propoſitions, ſo connected together, that, the prædicate, of every foregoing propoſition, becomes, the ſubject, of the following.

Q. How manyfold is a ſorite?

A. Two fold: firſt, compoſed of hipothetical propoſitions, and, ſecondly, compoſed of abſolute propoſitions.—An example of the former, *if we love any perſon, all hatred towards him ceaſe, If we rejoice not in his misfortunes, we wiſh him no injury*, therefore, *if we love a perſon we wiſh him no injury*.

Q. How many premiſes are there, in a ſorites?

A. All the propoſitions are premiſes, except, the laſt, which is the concluſion.

Q. What proportion, does the number of terms bear, to the number of propoſitions, in a ſorites?

A. In a ſorites, compoſed of abſolute, or ſimple propoſitions, there are as many terms, as propoſitions, becauſe every term is twice repeated, firſt, being the prædicate of the foregoing, and ſecondly, the ſubject of the

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following propoſition, and the firſt term is repeated in the concluſion.

Q. What proportion, does the number of middle terms bear to the number of terms in the ſorites?

A. All the terms are middle terms, except two, which are the extremes.

Q. Into how many ſyllogiſms, can a ſorites be reduced?

A. Into as many as there are middle terms.

Q. What propoſitions make up the premiſes, of the firſt ſyllogiſm?

A. The two firſt premiſes of the ſorites, but, that which was the ſecond premiſe, of the ſorites, becomes the major propoſition, of the firſt ſyllogiſm, and its firſt premiſe, the minor propoſition, becauſe, ſince all the premiſes of the ſorites, except the laſt (as we ſhall preſently ſee) are affirmative, the prædicate, of the firſt premiſe, muſt have greater extenſion, than its ſubject, and as this prædicate becomes the ſubject, of the ſecond propoſition, of the ſorites, its prædicate, will have greater extenſion, than its ſubject, of courſe, this prædicate muſt be the moſt extenſive term, in the two firſt propoſitions, of the ſorites; therefore, it muſt be the major term, in the firſt ſyllogiſm, thereforce the propoſition, wherein it is found, viz. the ſecond propoſition of the ſorites, muſt be th major propoſition, of the firſt ſyllogiſm, and the firſt propoſition, its minor, and from theſe, a concluſion is drawn.

Q. What propoſitions make up the premiſes, of the ſecond ſyllogiſm of the ſorites?

A. The third premiſe, of the ſorites, becomes its major, and the concluſion of the foregoing, its minor propoſition, ſince the prædicate of the third premiſe, has greater extenſion, than any term, that went before, it muſt be the major term, therefore, the propoſition, in which it is found, muſt be the major propoſition, in the ſecond ſyllogiſm, and the concluſion of the foregoing, its minor propoſition.

Q. To what figure muſt thoſe ſyllogiſms belong?

A. They muſt all belong to the firſt figure, for, as to the firſt of thoſe, it is evident, it muſt be the caſe, ſince, according to the above-mentioned tranſpoſition, of the premiſes, that term which is the ſubject of the major, is found to be the prædicate of the minor, which of courſe as being twice repeated, muſt be the middle term, and exactly diſpoſed, as in the firſt figure. The ſecond ſyllogiſm of the ſorites, will be likewiſe, in the firſt figure, from the following ſtatement.—As the third premiſe, of the ſorites, as above mentioned, becomes the major propoſition of the ſecond ſyllogiſm, and as it is affirmative, its prædicate muſt be the minor term, and its ſubject (of courſe) the middle term, but this ſubject is the prædicate, of the concluſion, of the foregoing ſyllogiſm, but, this concluſion is the minor propoſition of the ſecond ſyllogiſm, therefore, as the ſame term, is the ſubject of the major, and the prædicate of the minor, it is the middle term, and the ſyllogiſm is, in the firſt figure, and thus, all the ſyllogiſms of the ſorites, will be found, in the firſt figure, for which ſee the following examples: *Every man is an animal, every animal has ſenſation, every ſenſative thing is a body; every body is a ſubſtance*, thefore, *every man is a ſubſtance.* Thus reduced to ſyllogiſms: *Every animal has ſenſation, every man is an animal*, therefore, *every man has ſenſation.* 2*d*, *Every ſenſative thing is a body, every man has ſenſation*; therefore, *every man is a body.* 3*d*, *Every body is a ſubſtance, every man is a body, therefore, every man isa ſubſtance.*

Q. What are the two ſpecial rules of the ſorites?

A. 1*ſt*, The laſt premiſe only, can be negative. 2*d*, The firſt premiſe only, can be particular.

Q. How is the firſt proved?

A. As all the ſyllogiſms into which the ſorites is to be reſolved, muſt be in the firſt figure, as before-mentioned, and, that the minor propoſition, in the firſt figure, is affirmative, and, that this minor is the concluſion of the foregoing ſyllogiſm, that concluſion is affirmative, and of courſe, all the premiſes, from which it was deducted, but thoſe are all the premiſes of the ſorites, (except the laſt) which of courſe, muſt be all affirmative.

Q. How is it proved, that the firſt only can be particular?

A. As all the terms of the ſorites, except the two extremes, are middle terms, every one of them muſt, by the firſt general rule, be once univerſal, but, as all the premiſes, except the laſt, muſt be affirmative, thoſe middle terms, when they firſt occur, viz. as, the prædicates of affirmative propoſitions, are particular, therefore, when they next occur, as, the ſubjects, they muſt be univerſal, and therefore, all the propoſitions muſt be univerſal, except the firſt, which may be particular.

## CHAP. XIV.

### *Of Enthymemes.*

Q. What is an Enthymeme?

A. It is a ſyllogiſm abridged, both for brevity, and to pay a compliment, to the hearers underſtanding; this may take place in ſyllogiſms, made up, of either ſimple, or compound propoſitions.

Q. How many propoſitions, in an enthymeme, from ſimple ſyllogiſms?

A. Two: viz. the antecedent, which is one of the premiſes, and the conſequent, which is the concluſion.

Q. How is it known, in this caſe, which of the premiſes is ſuppreſſed?

A. If, the ſubject of the conſequent is, in the antecedent, the minor propoſition muſt be the antecedent, as the ſubject of the concluſion, viz. the minor term, muſt be in the minor propoſition, and, if the prædicate of the conſequent is in the antecedent, the major propoſition muſt be the antecedent, ſince, the prædicate of the concluſion, viz. the major term is found, in the major propoſition.—An example of the former: *Every man is an animal,* therefore, *every man has ſenſation.* An example of the latter: *Every animal has ſenſation,* therefore, *every man has ſenſation.*

Q. How is an enthymeme ſupplied, or reduced to a ſyllogiſm?

A. By making a propoſition, of the two terms, that are only once repeated, and ſubſtituting it, for the omitted propoſition.

Q. In what caſes does, it happen, that no term of the antecedent, enters the conſequent?

A. When the propoſitions of the ſyllogiſm, to which it may be reduced, are not all ſimple, as happen, when the major, which in this caſe, is ſuppreſſed, is either an hypothetical propoſition, as, *God is juſt,* therefore, *the wicked muſt be puniſhed*: here, the hypothetic major, viz. *if God is juſt, the wicked muſt be puniſhed,* contains the whole force of the conſequent, or a disjunctive, as, *Cicero was a patriot, therefore the Romans were not deceived.* Here, the major disjunctive of the ſyllogiſm, viz. *either Cicero was a patriot or the Romans were deceived,* is ſuppreſſed.

Q. How does it ſometimes happen, that, though the antecedent and conſequent have a common term, yet, the ſyllogiſm is not ſimple?

A. This happens, where, if the ſyllogiſm was a ſimple one, there would be a violation of the rules of ſyllogiſms, as, *Chriſt was no impoſtor, therefore, Chriſt redeemed man.* If this was an enthymeme, from a ſimple ſyllogiſm, it would be contrary to the ſixth general rule: as, an affirmative concluſion would follow from a negative premiſe, therefore, the major of it ought to be this, *if Chriſt was no impoſtor, Chriſt redeemed man.*

## CHAP. XV.

### *Of Induction.*

Q. What is Induction?

A. It is a ſpecies of argument, whereby an enumeration, of as many ſimple, or particular propoſitions as we can, we infer, an univerſal concluſion.

Q. In what reſpect does induction differ from ſyllogiſm?

A. Syllogiſm infers a general, or a particular concluſion, from premiſes more general, but, Induction, the very contrary, and in this, ſyllogiſm, has the advantage.

Q. Why then is induction made uſe of in demonſtration?

A. Induction is never uſed, except, in caſe of neceſſity, when, we cannot argue from a more general, a happens in natural philoſophy, where, we are obliged to conclude, from a number of particular Phænomena; as, *heavy bodies deſcend, in Europe, Aſia, Africa, and America; therefore, heavy bodies deſcend, on every part of the earth.*

Q. Is it neceſſary, that all the particulars ſhould be enumerated in every inſtance, to draw a concluſion?

A. This, in every inſtance, would be impoſſible, as, it would be impoſſible, in ſome caſes, to mention, an infinity of individuals, but, by enumerating ſome of the individuals, if we find no inſtance whatever, to the contrary we may draw a general concluſion, if this concurs with the opinions, of all others, in like caſes.

Q. Does this concluſion, from a partial enumeration, obtain in natural philoſophy?

A. In this alone, the concluſion is objectionable, as, the object of natural philoſophy is matter, whoſe eſſence, we are unacquainted with, and therefore, there may be raſh concluſions drawn, which, the experience of others, might afterwards contradict, and this more particularly, we ſee every day, taking place, in chymiſtry.

Q. How does it appear, that induction is a ſpecies of enthymeme?

A. Becauſe, here, the minor is generally left out as in the above example,—*heavy bodies deſcend, in Europe, Aſia, Africa, and America; but Europe, Aſia, Africa and America, make up the whole earth*; therefore, *heavy bodies deſcend, on every part of the earth.*

## CHAP. XVI.

### *Of Example.*

Q. What is an Example?

A. An argument wherein, from one ſingular circumſtance, the truth of which is ſelf-evident, we infer the poſition of another, ſimilar to it, though not yet certain, as, *the civil war between Marius and Sylla, injured the Roman commonwealth, therefore, the civil war, between Cæſar and Pompey, will injure it.*

Q. How, from example, do we infer the poſition of a ſimilar?

A. By tacitly ſuppoſing the ſimilarity of many others to the firſt, and then, aſſuming any of them, as a concluſion, as in the above example : it is preſumed, that it is the nature of all civil wars, to injure the commonwealth, and, from tacit inference, we plainly perceive, that every example is an enthymeme in which, the minor, which contains all the ſingulars, is to be underſtood, and which is the ſuppoſed univerſal.

Q. How is this ſpecies of argument ſhewn, ſometimes to be falſe?

A. By ſhewing that the ſingular inferred, is diſſimilar to the firſt.

Q. How far does example partake of induction, and how far of ſyllogiſm?

A. It partakes of induction, in as much, as it proceeds from a ſingular, tacitly, to the univerſal, and of ſyllogiſm, in as far as it proceeds again, from the univerſal, to the ſingular.

Q. What is the principal uſe of example?

A. It is moſt frequently uſed, by orators and rhetoricians, either to engage, or lead away, the attention of their audience, always aſſuming thoſe examples, with which, they ſuppoſe them to be beſt acquainted, or, to which, their capacities are adapted.

## CHAP. XVII.

### *Of Sophiſms.*

Q. What is a Sophiſm?

A. When a falſe or abſurd concluſion follows, from premiſes, which appear to be true, ſo, that an argument, which has the appearance of truth, leads us into an error.

Q. Was this the original ſignification of the word ſophiſm?

A. The original meaning of it ſignified wiſdom, or an inveſtigation of truth, but, this meaning was afterwards corrupted, and ſophiſts ſignified, thoſe quibling philoſophers, who made uſe of falſe arguments, to impoſe on the credulous, and procure to themſelves, the reputation of learned men.

Q. How far is the knowledge of ſophiſms neceſſary at the preſent day?

A. So far, that, by being able to diſcern this falſehood, we may prevent ourſelves from being impoſed on, without impoſing on others, which is to be done, by removing, this falſe appearance, and ſhewing, the matter in its true light.

Q. Which are the principal ſpecies of ſophiſms?

A. Firſt, a miſtake of the queſtion, when, ſomething is proved, which has no connection with what was required to be proved, as, if it ſhould be attempted to be proved, that, *Conſtantine the great, was not a Roman, becauſe he was born at York.*

Q. How is this ſophiſm overturned ?

A. By ſhewing, that, although, the aſſigned cauſe may be true in itſelf, yet, another is equally true.

Q. What is the ſecond ſpecies of ſophiſm?

A. Aſſigning a falſe cauſe, as, *there was a great darkneſs, becauſe of the death of Julius Cæſar.*

Q. How is this ſpecies overturned?

A. By either ſhewing the true cauſe, or, that the cauſe aſſigned, is not adequate.

Q. What is the third ſpecies?

A. A ſuppoſition, of what was granted, or begging the queſtion, if it was wanted to be proved, *that God was eternal, by ſaying that there neither was, is, or will be, a time, in which he did not exiſt.*

Q. How is this ſpecies overturned?

A. By ſhewing, that the proof is only equivalent to the queſtion.

Q. What is the fourth ſpecies?

A. An argument in a circle, or when two queſtions being propoſed, the truth of each of them, is attempted to be proved, by the other, as, *there will be a war, becauſe, there is a famine:* or, *there will be a famine, becauſe there is a war.*

Q. How is the falſehood of this ſhewn?

A. By proving, that one, is not neceſſarily the conſequence of the other, or, that though a cauſe produced a certain effect, yet, that effect will not produce the cauſe, from whence it proceeded.

Q. What is the fifth ſpecies?

A. The fallacy of accident, when we attribute any thing to an accident, which belongs to the ſubject, in which that accident inheres or, *vice verſa*, as, *wine has been the cauſe of quarrels, therefore, it is pernicious.*

Q. How is this ſpecies overturned?

A. By ſhewing the difference between the ſubject, and accident.

Q. What is the ſixth ſpecies?

A. When we argue from that which is true in particular circumſtances, to prove, the ſame thing true, in every circumſtance, or abſolutely, as, *what is bought in the ſhambles, is to be eat, raw meat is bought, therefore, raw meat is to be eat.*

Q. How is this ſpecies overturned?

A. By ſhewing the difference between things, in their abſolute ſenſe, and the ſame things, in a determinate ſenſe, or connected with particular circumſtances, this has its reverſe, viz. when we argue from a thing true, in every circumſtance, to that which is true, only in particulars, as, if it was ſaid, that we ought not to puniſh a man, for protecting another, we ſhould take into conſideration, that he may protect that man, for the avowed purpoſe of deſtroying many.

Q. What is the ſeventh ſpecies?

A. A ſophiſm of many interrogatories, when a queſtion involves two or more circumſtances which have ſuch an oppoſition, that they cannot be anſwered, in the affirmative, or negative, at the ſame time, as, *are honey and gall ſweet.*

Q. How is the fallacy of this ſhewn?

A. By giving the proper anſwer to each of the parts, of the propoſition, ſeparately.

Q. What is the eighth ſpecies?

A. That, of a falſe conſequence, when a concluſion is inferred, which does not rightly follow, according to the rules of ſyllogiſms.

Q. In what ſpecies of argument does this fallacy take place?

A. moſt frequently, in enthymemes, that the fallacy may not be perceived, as, *no bad man is happy:* therefore, *every good man is happy*: this enthymeme ſhould be thus ſupplied; *no bad man is happy, every thing happy is good, therefore, every good man is happy*: here we draw an affirmative concluſion, tho' one of the premiſes is negative, beſides, we bring the middle term into the concluſion, which ſhould never be done.

Q. What is the ninth ſpecies?

A. Sophiſms of equivocation, when a word is uſed, which has different ſignifications, as, *a dog barks, a ſtar is a dog, therefore, a ſtar barketh.*

Q. How is the fallacy of this ſhewn?

A. By ſhewing, that there are four terms, for, the term Dog, in the major, and minor, ſignifies different parts, of the ſame whole univerſal, contrary, to the firſt general rule. Sophiſms of ambiguity, belong to this ſpecies, and their falacy ſhewn, in the ſame manner, as, *he that ſends a book into the light, deſires it to be read, he that throws a book into the fire ſends it into the light,* and therefore, *he that throws a book into the fire deſires it to be read.*—Sophiſms of accent, or, when different words are pronounced in the ſame manner, may be reduced to this ſpecies, and the falacy ſhewn, as above, as the words, *meat* and *mate*.

Q. What is the tenth ſpecies?

A. Thoſe of diviſion, and compoſition, as, when the ſame things might ſeem to be concluded, in a compound ſenſe, that may be concluded of them in a divided ſenſe, and *vice verſa*, as, *two and three make two numbers*, but, *two and three are five*, therefore, *five is two numbers*: or, on the contrary, *five is one nnmber, two and three make five*, therefore, *two and three is one number*.

Q. How is the falacy of this ſhewn?

A. By ſhewing that, on account of the difference of the compounded, and divided ſenſes, there are four terms in the premiſes.

# CHAP. XVIII.

## *Of Method.*

Q. What is Method?

A. The proper arrangement of our thoughts about any ſubject, ſo, as to prevent confuſion, in finding out, unknown truths, and conforming in the mind, truths, already known.

Q. How manyfold is method?

A. Two fold: Synthetic, and Analytic.

Q. What is meant, by the ſynthetic method?

A. That, which begins with the parts, and leads on, to a knowledge of the whole, proceeding, from the moſt general, and ſimple truths, to that, which is compounded of them, and hence it is called, the ſynthetic method, or method of compoſition.

Q. What is meant by the Analytic method?

A. That, which takes the whole compound whether a ſpecies, or an individual, and leads us, into the knowledge of it, by reſolving it, into its parts, and hence it is called the analytic method, or method of reſolution.

Q. In which of thoſe methods do we generally proceed, in any ſcience, or branch of knowledge?

A. This depends on, whether the parts, or the whole, is better known, in the beginning if the parts are better known, we begin with the ſynthetic method, we conſider them diſtinctly, arrange them properly together, and thus come to a knowledge, of the whole, as, *in Grammar*, we begin with the letters, of them ſyllables are made, next, words, and ſentences, and laſtly, language, but, if the whole is better known, than its parts, we uſe the analytic method, as, in the ſame example, if language be firſt better known, we next proceed to ſentences, words, ſyllables, and letters.

Q. How are thoſe methods illuſtrated in ogics?

A. In the ſame manner, thus: in the analytic, we begin with the individual, which is the moſt compound, as having the greater comprehenſion, and then, to the propoſitions, through ſyllogiſm, to all ſpecies of reaſoning, and again, from reaſoning in general to ſyllogiſms, propoſitions, and individuals, or, analytically, from the individual, to the ſummum genus, and ſynthetically, from the ſummum genus, to the individual; the analytical method proceeds, from the end, to the means, and from the means, to the extremes, and the ſynthetic again, from the extremes, to the means, and ſo to the end.

Q. What is the uſe of the analytic method in the ſciences?

A. This, in the ſciences, is called the method of invention, becauſe, it obſerves the order, in which, our thoughts ſucceed one another, in the invention, or diſcovery of truth.

Q. What is the uſe of the ſynthetic method, in the ſciences?

A. This, in the ſciences, is called the method of inſtruction, in as much, as laying our thoughts before others, we generally proceed, in the ſynthetic manner, deducing them, from their firſt principles, and here, we are to obſerve, that the analytic method, is by no means calculated for inſtruction, becauſe, when firſt we ſet out, we are unable to conjecture how far our enquiries may lead us; but, in the ſynthetic, we begin with the extremes, and proceed through truths already known, untill without deviating, we arrive at the end.

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Q. How are thoſe methods illuſtrated in logics?

A. In the ſame manner, thus: in the analytic, we begin with the individual, which is the moſt compound, as having the greater comprehenſion, and then, to the propoſitions, through ſyllogiſm, to all ſpecies of reaſoning, and again, from reaſoning in general to ſyllogiſms, propoſitions, and individuals, or, analytically, from the individual, to the ſummum genus, and ſynthetically, from the ſummum genus, to the individual; the analytical method proceeds, from the end, to the means, and from the means, to the extremes, and the ſynthetic again, from the extremes, to the means, and ſo to the end.

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15 OC 61